

Derwent
Top 100
Global
Innovator
2020

Metasol *Meta Solution*

VCB

Vacuum Circuit Breakers (7.2/12/17.5kV)



LS *ELECTRIC*

Metasol VCB

Features

- Rating: 7.2/12/17.5kV 16/20/25/31.5kA 630/1000/1250
- Rated breaking time: 3 cycle
- Rated short-circuit withstand characteristics: 4sec
- Rated operating sequence: O-0.3s-CO-15s-CO
- Type test level(Electrical / Mechanical life): M2, E2(List3), C2
- CB Compartment type cradle: Implementation of all kinds
- Various cradle: E, F, H type
- 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 : UVT, Second coil, Position S/W, Keylock, Button padlock, Button cover, Padlock(H type), MOC, Locking magnet,

- Kelock, Mecha shaft interlock lever, Low energy trip device, CTC, Manual(rotatry) Charge geared ass'y
- Cradle part: Earthing S/W & accessory, Shutter padlock, TOC(Truck operating cell S/W), MOC(Mechanism operating cell S/W), Door interlock, Door emergency push button, Temperature sensor
- Others: Draw-in/out handle, Manual(rotatry) charging handle, UVT Time delay controller, CTD(Condensor trip device), TM
- Automatic Draw-in/out display

Standards and Test

- IEC 62271-100 [M2, C2, E2(List3)]
- KERI [M2, C2, E2(List3)]

| Type | | MVL-06□20,25□06,10,13 | | | MVL-06□32□06,10,13 | | |
|--|-----------------------|-----------------------|----------------------|-------------------|--------------------|------|------|
| Rated voltage | [kV] | 7.2 | | | | | |
| Rated current | [A] | 630 | 1000 | 1250 | 630 | 1000 | 1250 |
| Rated frequency | [Hz] | 50 / 60 | | | | | |
| Rated interrupting current | [kA] | 20, 25 | | | 31.5 | | |
| Rated interrupting capacity | [MVA] | 250, 312 | | | 393 | | |
| Rated short-time current | [kA] | 20/4sec, 25/4sec | | | 31.5/4sec | | |
| Rated making current | [kA] | 65 | | | 81.9 | | |
| Rated interrupting time | [cycle] | 3 | | | | | |
| Withstand voltage | Frequency [kV] | 20 | | | | | |
| | Impulse [kV/1.2x50μs] | 60 | | | | | |
| TRV increasing rate | [kV/μs] | 0.24 | | | | | |
| TRV MAX Value | [kV] | 12.3 | | | | | |
| Operating duty | | O-0.3s-CO-15s-CO | | | | | |
| Control voltage | [V] | DC 24~30V | DC 48~60V, AC 48V | AC/DC 100~130V | AC/DC 200~250V | | |
| Control current for closing | [A] | ≤ 8 | ≤ 4 | ≤ 2 | ≤ 1 | | |
| Control current for opening | [A] | ≤ 8 | ≤ 4 | ≤ 4 | ≤ 2 | | |
| Current of motor operation (steady current/Inrush current) | [A] | ≤ 5 / ≤ 25 | ≤ 3 / ≤ 15 | ≤ 2 / ≤ 10 | ≤ 1 / ≤ 5 | | |
| Standard aux contacts | | 4a4b, 10a10b | | | | | |
| Rated opening time | [s] | ≤ 0.04 | | | | | |
| No-load closing time | [s] | ≤ 0.06 | | | | | |
| Motor charging time | [s] | ≤ 5 | | | | | |
| Pole distance | P, B, H [mm] | 150 | | | 150 | | |
| | E, F [mm] | - | | | | | |
| Weight | E, F, H [kg] | 83.5 | | | 91 | | |
| | Cradle (H-Type) [kg] | 150 | | | | | |
| | P, B [kg] | 52 | | | 55 | | |
| Installation type | | P, B, H | | | | | |
| Applicable standard | | IEC 62271-100 | | | | | |



Contents

| | |
|---------------------------|----|
| • Rating | 02 |
| • Ordering information | 04 |
| • Structure | 06 |
| • Accessories | 06 |
| • Control circuit diagram | 08 |
| • Dimensions | 09 |

| MVL-12□16,20,25□06,10,13 | | | | MVL-12□32□06,10,13 | | | | MVL-17□16,20,25□06,10,13 | | | | MVL-17□32□06,10,13 | | | |
|---------------------------|----------------------|-------------------|-------------------|--------------------|----------------------|-------------------|-------------------|---------------------------|----------------------|-------------------|-------------------|--------------------|----------------------|-------------------|-------------------|
| 12 | | | | 12 | | | | 17.5 | | | | 17.5 | | | |
| 630 | 1000 | 1250 | | 630 | 1000 | 1250 | | 630 | 1000 | 1250 | | 630 | 1000 | 1250 | |
| 50 / 60 | | | | 50 / 60 | | | | 50 / 60 | | | | 50 / 60 | | | |
| 16, 20, 25 | | | | 31.5 | | | | 16, 20, 25 | | | | 31.5 | | | |
| 333, 416, 520 | | | | 655 | | | | 485, 607, 758 | | | | 955 | | | |
| 16/4sec, 20/4sec, 25/4sec | | | | 31.5/4sec | | | | 16/4sec, 20/4sec, 25/4sec | | | | 31.5/4sec | | | |
| 65 | | | | 81.9 | | | | 65 | | | | 81.9 | | | |
| 3 | | | | 3 | | | | 3 | | | | 3 | | | |
| 28 | | | | 28 | | | | 38 | | | | 38 | | | |
| 75 | | | | 75 | | | | 95 | | | | 95 | | | |
| 0.34 | | | | 0.34 | | | | 0.42 | | | | 0.42 | | | |
| 20.6 | | | | 20.6 | | | | 30.0 | | | | 30.0 | | | |
| O-0.3s-CO-15s-CO | | | | O-0.3s-CO-15s-CO | | | | O-0.3s-CO-15s-CO | | | | O-0.3s-CO-15s-CO | | | |
| DC 24-30V | DC 48-60V, AC 48V | AC/DC 100-130V | AC/DC 200-250V | DC 24-30V | DC 48-60V, AC 48V | AC/DC 100-130V | AC/DC 200-250V | DC 24-30V | DC 48-60V, AC 48V | AC/DC 100-130V | AC/DC 200-250V | DC 24-30V | DC 48-60V, AC 48V | AC/DC 100-130V | AC/DC 200-250V |
| ≤ 8 | ≤ 4 | ≤ 2 | ≤ 1 | ≤ 8 | ≤ 4 | ≤ 2 | ≤ 1 | ≤ 8 | ≤ 4 | ≤ 2 | ≤ 1 | ≤ 8 | ≤ 4 | ≤ 2 | ≤ 1 |
| ≤ 8 | ≤ 4 | ≤ 4 | ≤ 2 | ≤ 8 | ≤ 4 | ≤ 4 | ≤ 2 | ≤ 8 | ≤ 4 | ≤ 4 | ≤ 2 | ≤ 8 | ≤ 4 | ≤ 4 | ≤ 2 |
| ≤ 5 / ≤ 25 | ≤ 3 / ≤ 15 | ≤ 2 / ≤ 10 | ≤ 1 / ≤ 5 | ≤ 5 / ≤ 25 | ≤ 3 / ≤ 15 | ≤ 2 / ≤ 10 | ≤ 1 / ≤ 5 | ≤ 5 / ≤ 25 | ≤ 3 / ≤ 15 | ≤ 2 / ≤ 10 | ≤ 1 / ≤ 5 | ≤ 5 / ≤ 25 | ≤ 3 / ≤ 15 | ≤ 2 / ≤ 10 | ≤ 1 / ≤ 5 |
| 4a4b, 10a10b | | | | 4a4b, 10a10b | | | | 4a4b, 10a10b | | | | 4a4b, 10a10b | | | |
| ≤ 0.04 | | | | ≤ 0.04 | | | | ≤ 0.04 | | | | ≤ 0.04 | | | |
| ≤ 0.06 | | | | ≤ 0.06 | | | | ≤ 0.06 | | | | ≤ 0.06 | | | |
| ≤ 5 | | | | ≤ 5 | | | | ≤ 5 | | | | ≤ 5 | | | |
| 150 | | | | 150 | | | | 150 | | | | 150 | | | |
| 210 | | | | - | | | | - | | | | - | | | |
| 83.5 | | | | 91 | | | | 83.5 | | | | 91 | | | |
| 150 | | | | 150 | | | | 170 | | | | 170 | | | |
| 52 | | | | 55 | | | | 52 | | | | 55 | | | |
| P, E, F, B, H | | | | P, B, H | | | | P, B, H | | | | P, B, H | | | |
| IEC 62271-100 | | | | IEC 62271-100 | | | | IEC 62271-100 | | | | IEC 62271-100 | | | |

Ordering information

■ Breaker

| | | | | | |
|-------------------------|----------------------------|--|---|--|------------------------------|
| MVL | 12 | H | 20 | A | 06 |
| Basic model name | Rated voltage (kV) | Version | Interrupting current (kA) | Phase distance/Compatibility | Rated current (A) |
| MVL VL Mecha. | 06 7.2 12 12 17 17.5 | P Fixed E E type drawout (for MESH) F F type drawout (for MESH) H H type drawout (for MESH) B Box type drawout | 16 16 (7.2 kV is absent) 20 20 25 25 32 31.5 | A 150 B 210 P 150 (Tulip contact) Q 210 (Tulip contact) T 150 (compatible with compact type) | 06 630 10 1000 13 1250 |

Note) 1. P/H/B type is available for 150mm only, E/F type is available for 210mm only.
 2. In case of E/F type, only 12kV, 20/25kA, 630/1250A are available.
 3. In case of 7.2kV, only 630/1250A are available.
 4. In case of 31.5kA, only 630/1250A, tulip type(P) are available.
 5. In case of T type, only H type, 12kV, 20/25kA are available.

| | | | | | | | |
|---------------------|---|---|---|---|---|---|-----------------|
| MVL-12H20A06 | M1 | C1 | T1 | SB2 | U1 | A12 | Optional |
| | Motor control voltage | | Trip coil voltage | | UVT | Other accessories | |
| | M0 Motor none M1 DC 110V M2 DC 220V-250V M3 DC 125V M4 DC 24V-30V M5 DC 48V-60V M6 AC 48V M7 AC 100V-130V M8 AC 200V-250V | | T0 T.C none T1 DC 110V T2 DC 220V-250V T3 DC 125V T4 DC 24V-30V T5 DC 48V-60V T6 AC 48V T7 AC 100V-130V T8 AC 200V-250V | | U0 UVT none U1 DC 110V U2 DC 220V-250V U3 DC 125V U4 DC 24V-30V U5 DC 48V-60V U6 AC 48V U7 AC 100V-130V U8 AC 200V-250V | A1 Secondary trip coil A2 Secondary trip coil with TCS contact A3 Position S/W (Test : 1a1b, Service : 2b) A4 Position S/W (Test : 2a, Service : 2a) A5 Position S/W (Test : 1a1b, Service : 1a1b) A7 Keylock A8 Button padlock A9 Button cover AA Lead wire AB User type plug (Part) AC Plug interlock AD Padlock (H type) AE MOC AF Locking magnet AG Keylock (Same key-One key for 3EA VCB) AI Mecha shaft interlock lever AO Lead wire special color (blue) AT Low energy trip device 25mJ AU Low energy trip device 100mJ AV CT operated coil 1A AW CT operated coil 5A AZ Manual(rotary) charge geared ass'y | |
| | | Closing coil voltage | | Connector and wire | | | |
| | | C0 C.C none C1 DC 110V C2 DC 220V-250V C3 DC 125V C4 DC 24V-30V C5 DC 48V-60V C6 AC 48V C7 AC 100V-130V C8 AC 200V-250V | | SA2 SA4 Standard SB2 SB4 SA6 SA8 Flame retardant SB6 A type connector 4a4b A type connector 10a10b B type connector 4a4b B type connector 10a10b A type connector 4a4b A type connector 10a10b B type connector 4a4b | | | |

Note) 1. Replace suffix "A12" with "A147" for A1, A4 and A7.

2. Unable to install A1 and U1-U8(UVT) simultaneously.

3. Unable to install A3, A4 and A5 simultaneously.

4. Unable to install A8 and A9 simultaneously.

5. When A1 is selected the maximum available auxiliary contacts are 9a9b.

6. When A2 is selected the maximum available auxiliary contacts are 4a3b and 9a8b.

7. AC, AD, AE and AF apply only to H type.

8. In case of B-type connector the flame retardant wire is applicable to auxiliary contacts 4a4b, not to 10a10b.

9. A/B-type connectors apply to P/E/F/G/K type and B-type connector only to H type.

10. Lead wire special color (blue) is for A-type connector only.

11. If a position switch is selected, A/B-type (P/E/F/G/K-type) or B-type(H-type) connector can be selected as an option for auxiliary contacts and wiring ass'y.

12. The control power of the locking magnet of H type breaker is the same as the motor control power.

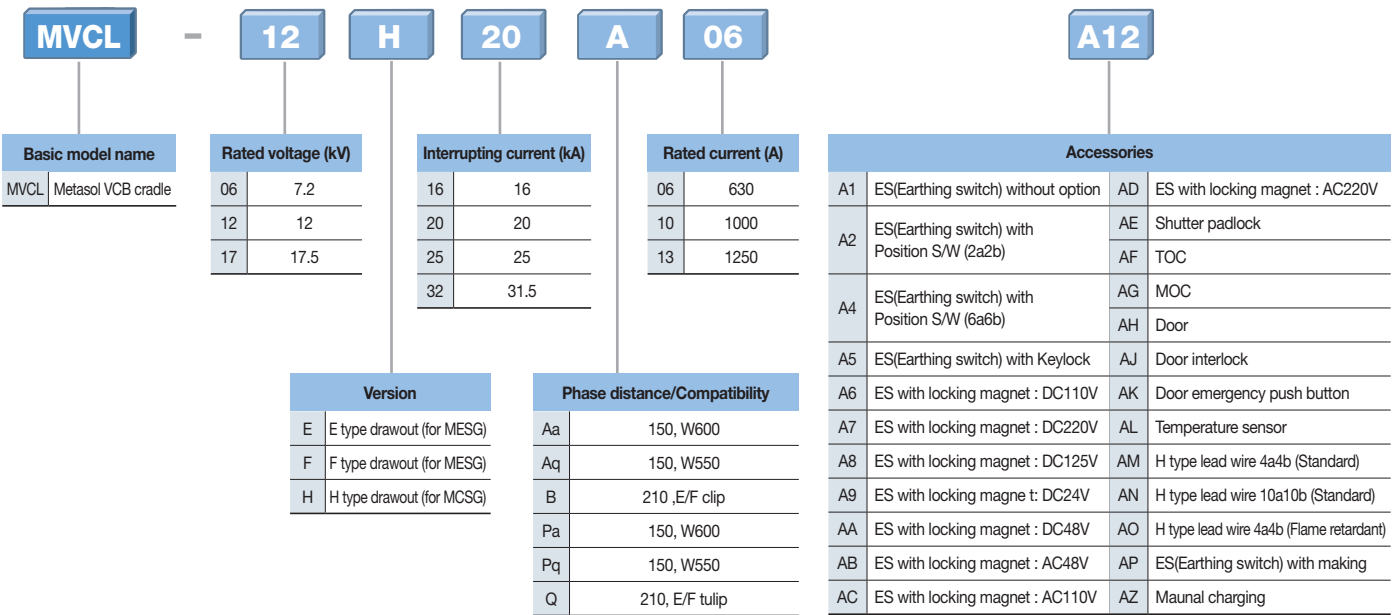
13. Flame retardant type blue wire is not available.

14. Unable to install A1 and U1-U8(UVT) simultaneously if AV and AW is installed.

The maximum auxiliary contact is 4a4b with AV and AW.

| Accessories | |
|-------------|--------------------------------------|
| 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 |

■ Cradle



Note) 1. In case of E/F type, only 12kV, 210mm(B,Q) are available.
 2. In case of H type,
 - Aa is for compartment W600.
 - Aq is for compartment W550.
 - Pa is for compartment W600,(Tulip type)
 - Pq is for compartment W550,(Tulip type)
 3. In case of Aq, Pq cradle, only 7.2/12kV are available

Note) 1. Accessories and TM for the cradle apply only to H type.
 2. AJ and AK apply only when the door (AH) is present.
 3. TM is for use with AL in H type cradle.
 4. H type lead wire - one of AM, AN or AO is required for cradle in case of H type breaker.
 5. Unable to install AK at the cradle if A8, A9 is present in the H type breaker
 6. A1 is selected, A5 is included as standard.

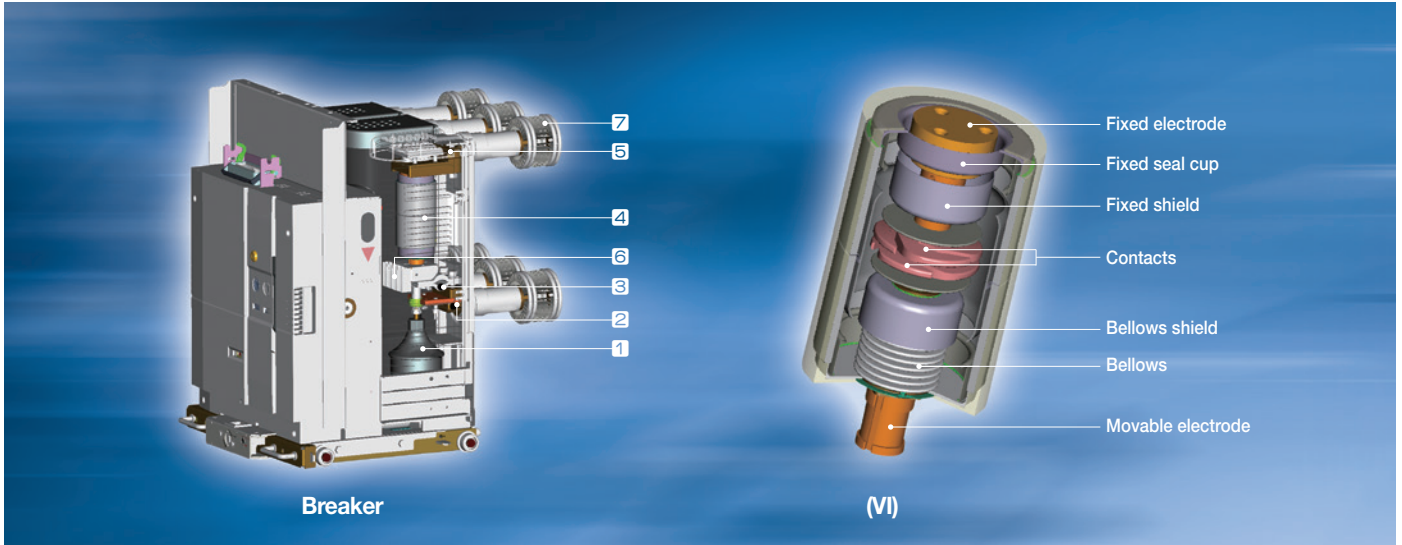


< E type cradle >



< F type cradle >

Structure



Breaker

- 1 Insulation rod
- 2 Lower terminal
- 3 Flexible shunt
- 4 Vacuum interrupter
- 5 Upper terminal
- 6 Heat sink, 2000A or more
- 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 5×10^{-5} torr.

Accessories











Breaker

- 1 Motor(M), Charge switch
- 2 Closing coil(C)
- 3 Trip coil(TC)/Secondary Trip coil(TC1)
- 4 Counter
- 5 Auxiliary contact(SA)
- 6 UVT
- 7 Keylock
- 8 Button padlock
- 9 Button cover
- 10 Position switch
- 11 Handle for draw-in and out
- 12 UVT time delay controller
- 13 CTD
- 14 MOC
- 15 Padlock(H type door interlock)
- 16 Locking magnet
- 17 Plug interlock
- 18 Manual charging geared ass'y
- 19 Manual charging handle
- 20 CTC
- 21 LETD

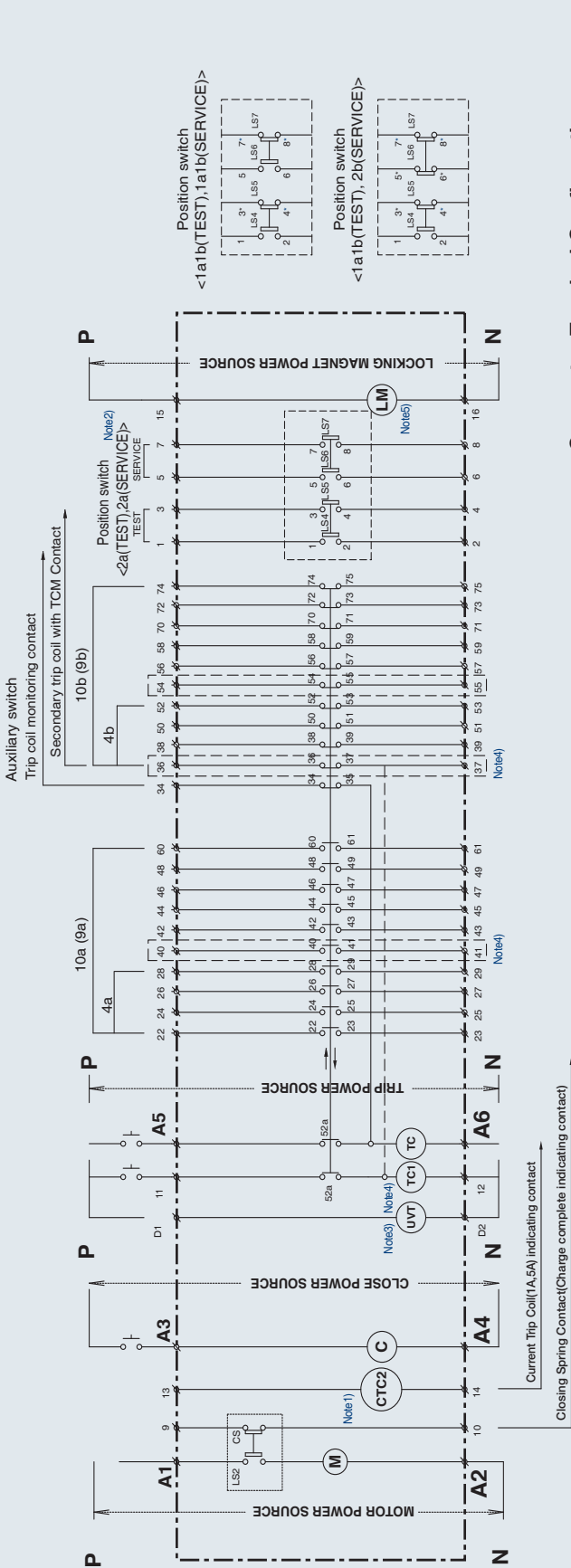
Cradle

- 1 TOC(Truck operating cell S/W)
- 2 MOC(Mechanism operating cell S/W)
- 3 Temperature sensor
- 4 Door
- 5 Door interlock
- 6 Shutter padlock
- 7 Emergency On/Off button
- 8 Earthing S/W & Accessory
- 8-1 Keylock-earthing S/W
- 8-2 Locking magnet-earthing S/W
- 8-3 Position S/W-earthing S/W
- 9 TM(Temperature monitoring unit)
- 10 Manual charging geared ass'y

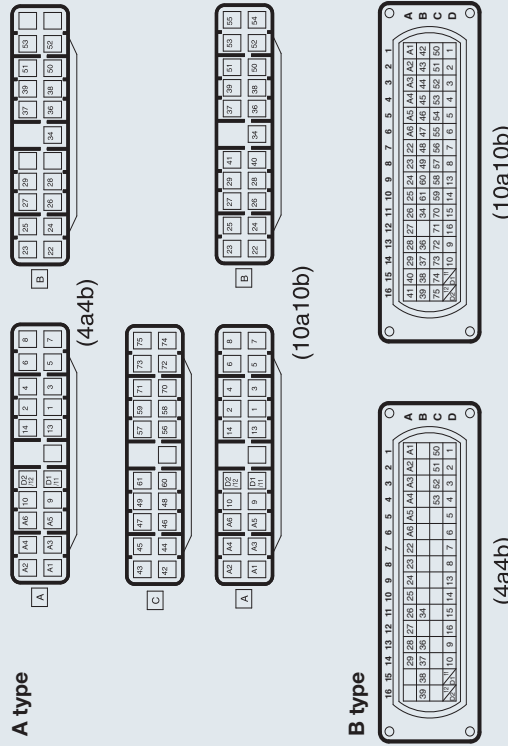
Accessories

| No | Designation | Division | Shape | Division | Remarks | No | Designation | Division | Shape | Division | Remarks |
|----|---------------------------------|-------------------------|---|-----------------|---|----|----------------------------------|------------------|---|-----------------|---------|
| 1 | Geared motor | Basic |  | VL common | Rating division: DC 24V, 48V, 110V 125V, 220V AC 48V, 110V, 220V | 17 | MOC | Option (Breaker) |  | | |
| 2 | Closing coil | Basic |  | VL common | Rating division: DC 24V, 48V, 110V 125V, 220V AC 48V, 110V, 220V | 18 | TOC | Option (Cradle) |  | VL common | |
| 3 | Opening coil | Basic |  | VL common | Rating division: DC 24V, 48V, 110V 125V, 220V AC 48V, 110V, 220V | 19 | MOC | Option (Cradle) |  | New development | |
| 4 | Auxiliary contact | Basic |  | New development | 4a4b, 10a10b | 20 | Temperature sensor | Option (Cradle) |  | VL common | |
| 5 | UVT | Option (Breaker) |  | VL common | Rating division: DC 24V, 48V, 110V 125V, 220V AC 48V, 110V, 220V | 21 | Earthing S/W & accessory | Option (Cradle) |  | New development | |
| 6 | Additional opening coil | Option (Breaker) |  | VL common | Rating division: DC 24V, 48V, 110V 125V, 220V AC 48V, 110V, 220V | 22 | Shutter padlock | Option (Cradle) |  | VL common | |
| 7 | Position S/W (H type) | Option (Breaker) |  | VL common | Test/Run: 2a2a, 2a2b | 23 | Door emergence push button | Option (Cradle) |  | New development | |
| 8 | Keylock | Option (Breaker) |  | ACB common | | 24 | Door | Option (Cradle) |  | New development | |
| 9 | Button padlock | Option (Breaker) |  | VL common | | 25 | Door interlock | Option (Cradle) |  | New development | |
| 10 | Button cover | Option (Breaker) |  | VL common | | 26 | CTD | Others |  | VL common | |
| 11 | Plug interlock | Option (Breaker/Cradle) |  | VL common | | 27 | UVT time delay controller | Others |  | VL common | |
| 12 | Padlock (H type door interlock) | Option (Breaker) |  | VL common | | 28 | Drawout handle | Others |  | VL common | |
| 13 | Manual charging geared ass'y | Option (Breaker) |  | VL common | Rating division: DC 24V, 48V, 110V 125V, 220V AC 48V, 110V, 220V | 29 | Temperature monitoring unit (TM) | Others |  | New development | |
| 14 | CTC | Option (Breaker) |  | New development | 1A, 5A | 30 | Lift | Others |  | New development | |
| 15 | LETD | Option (Breaker) |  | VL common | 25mJ | 31 | Manual charging handle | Others |  | VL common | |
| 16 | Manual charging geared ass'y | Option (Cradle) |  | New development | | | | | | | |

Control circuit diagram



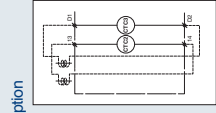
<Connector Terminal Configuration>



| SW No. | TEST : 1a1b | TEST : 2a | TEST : 1a1b | TEST : 1a1b |
|--------|--------------------------|---------------------------|---------------------------|--------------------------|
| | SERVICE : 2b | SERVICE : 2a | SERVICE : 1a1b | SERVICE : 1a1b |
| LS4 | A3 | A4 | A5 | A5 |
| LS5 | Close at TEST position | Close at TEST position | Close at TEST position | Close at TEST position |
| LS6 | OPEN at TEST position | Close at SERVICE position | Close at SERVICE position | OPEN at SERVICE position |
| LS7 | OPEN at SERVICE position | Close at SERVICE position | Close at SERVICE position | OPEN at SERVICE position |

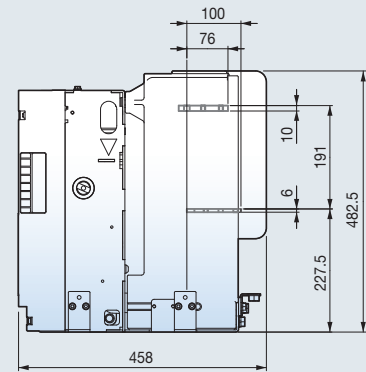
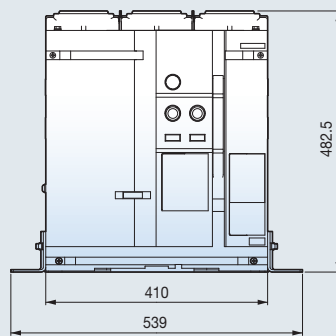
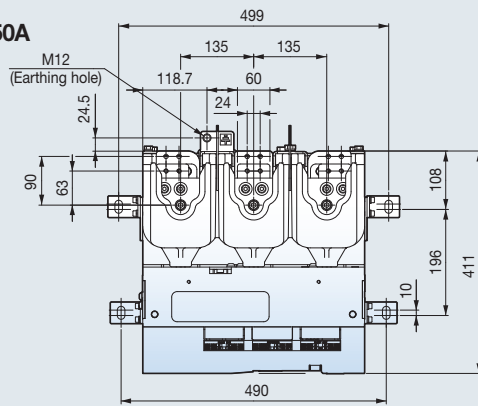
LM : Locking magnet(only withdrawable type)

- Note 1) CTC2 : Current Trip Coil(I.A.5A) (Terminal No. : 13,14)
 2) Position SW - 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 (Spare 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. LM - Locking Magnet (Terminal No.:15, 16). In case of B type connector is available
 6. 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.
 7. 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)
 8. LET - Low Energy Trip Device (Terminal No.: 13,14)
 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.

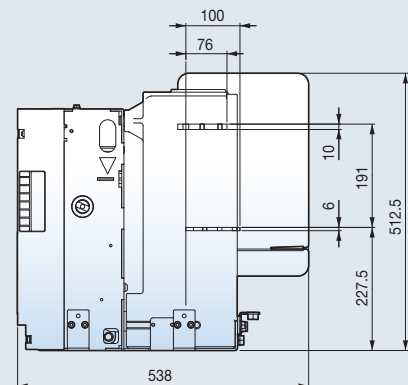
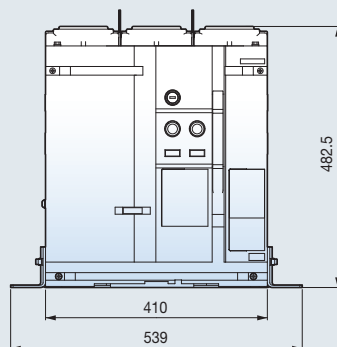
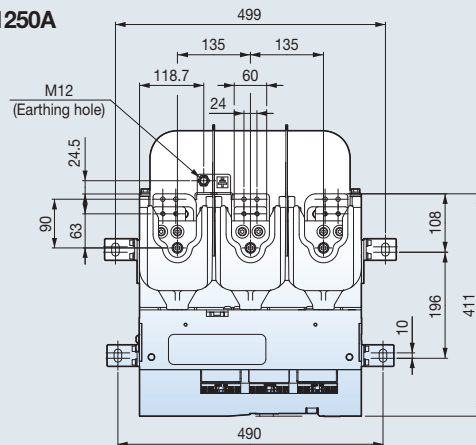


Dimensions

7.2kV 20, 25, 31.5kA 630, 1250A
 12kV 16, 20, 25kA 630, 1000, 1250A
 12kV 31.5kA 630, 1250A
 (P type, Phase: 150mm)

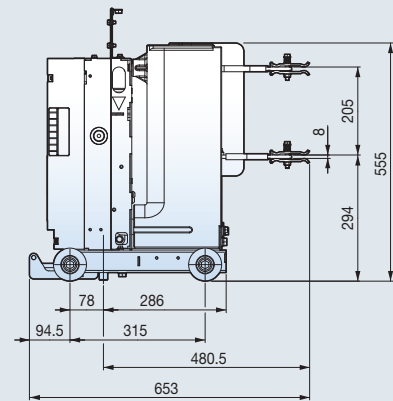
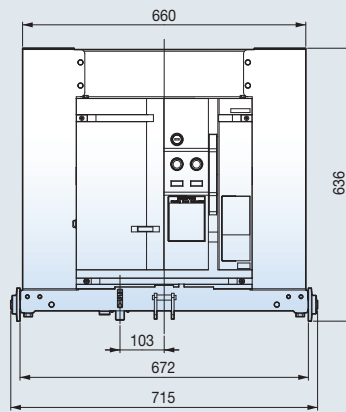
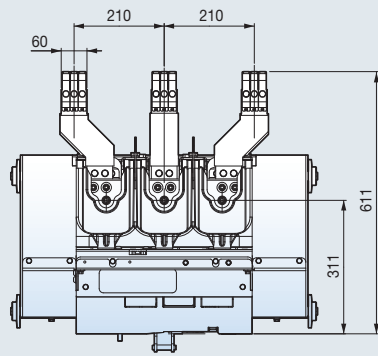


17.5kV 16, 20, 25kA 630, 1000, 1250A
 17.5kV 31.5kA 630, 1250A
 (P type, Phase: 150mm)

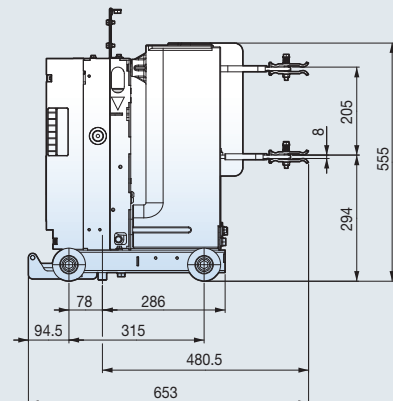
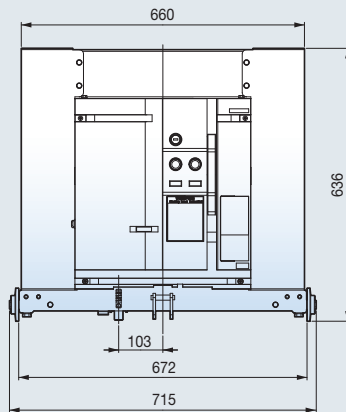
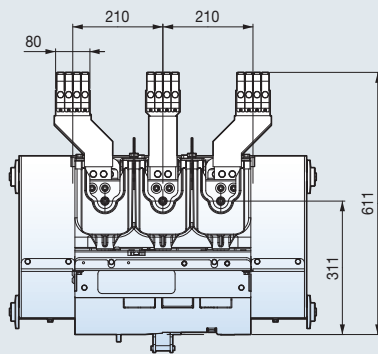


Dimensions

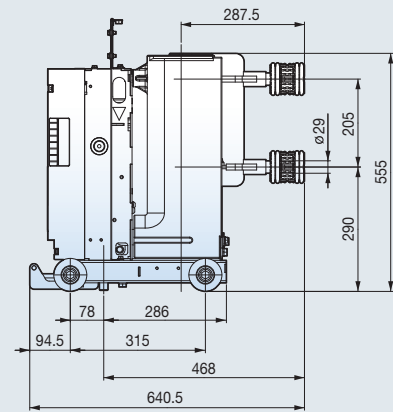
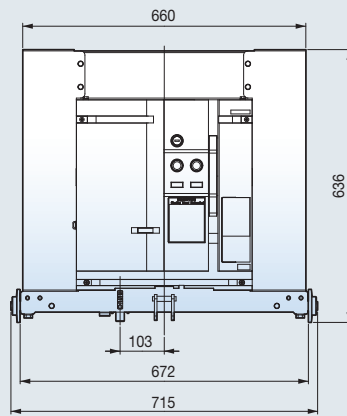
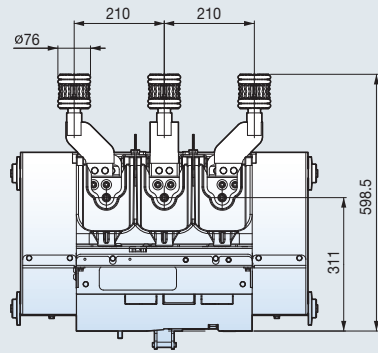
12kV 20, 25kA 630A
(E type, Clip, Phase: 210mm)



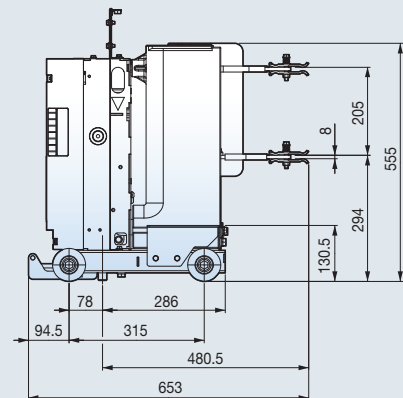
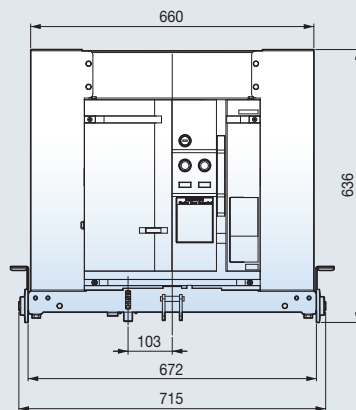
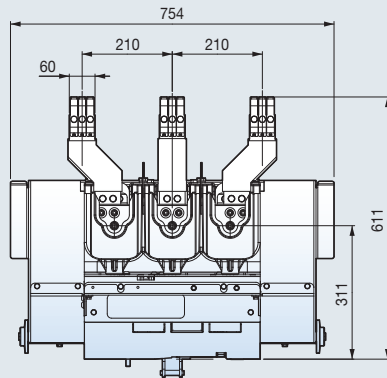
12kV 20, 25kA 1250A
(E type, Clip, Phase: 210mm)



12kV 20, 25kA 630, 1250A
(E type, Tulip, Phase: 210mm)

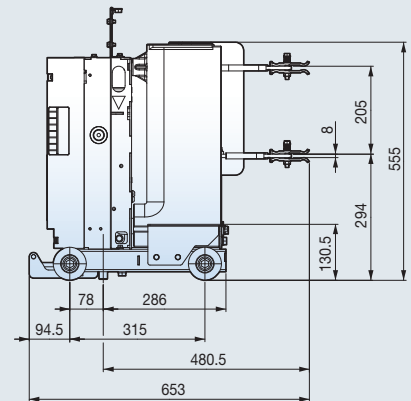
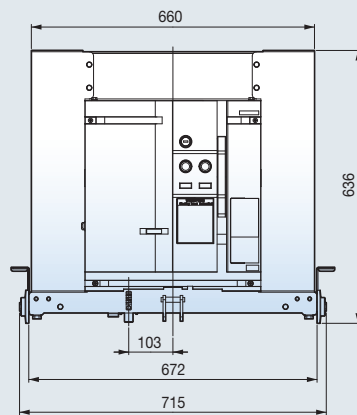
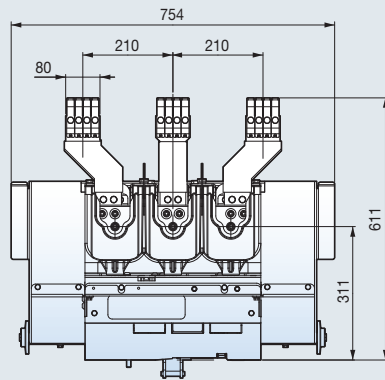


12kV 20, 25kA 630A
(F type, Clip, Phase: 210mm)

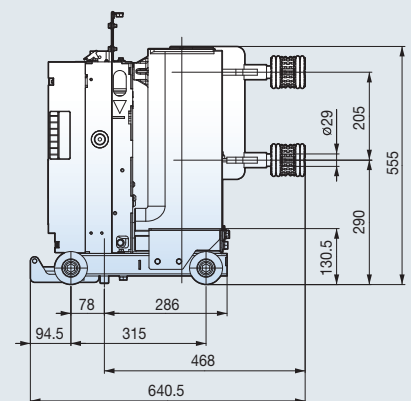
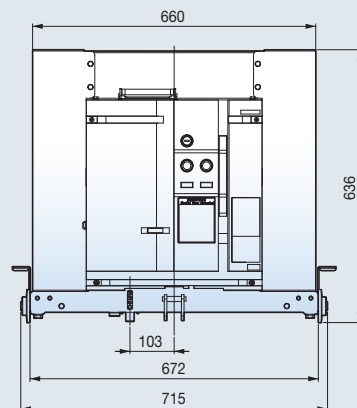
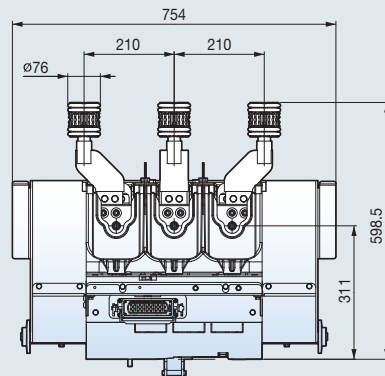


Dimensions

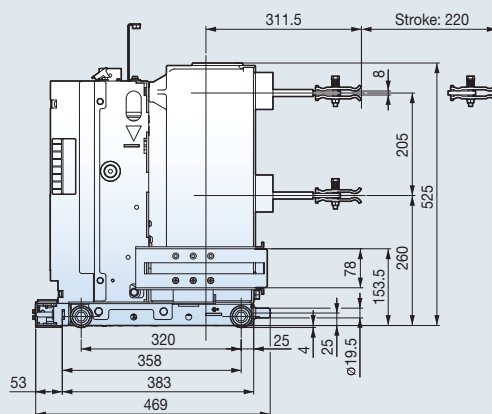
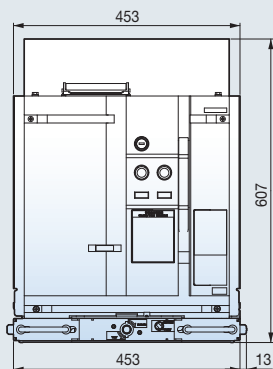
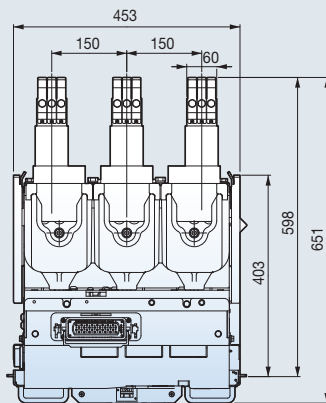
12kV 20, 25kA 1250A
(F type, Clip, Phase: 210mm)



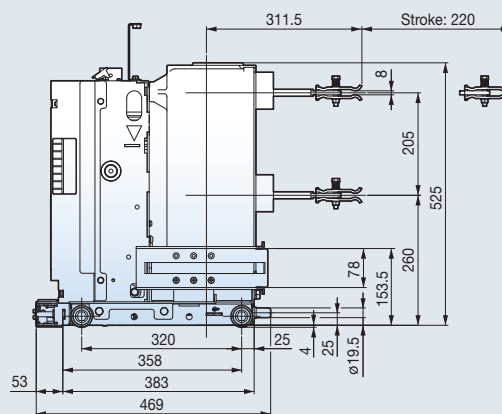
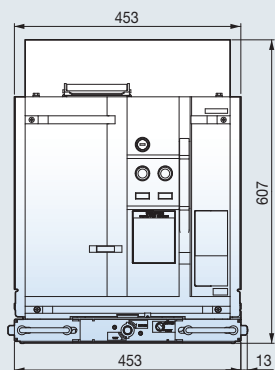
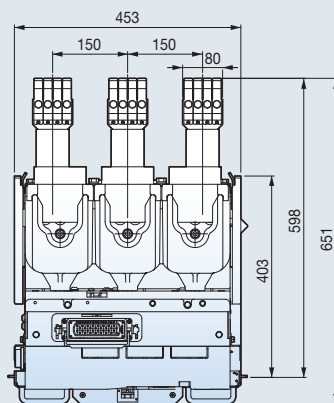
12kV 20, 25kA 630, 1250A
(F type, Tulip, Phase: 210mm)



7.2kV 20, 25kA 630A
 12, 17.5kV 16, 20, 25kA 630, 1000A
 (H type, Clip, Phase: 150mm)

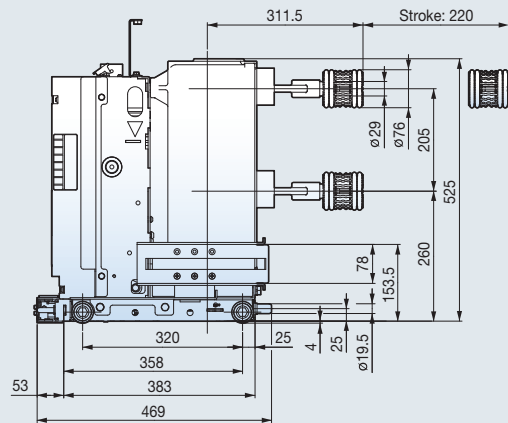
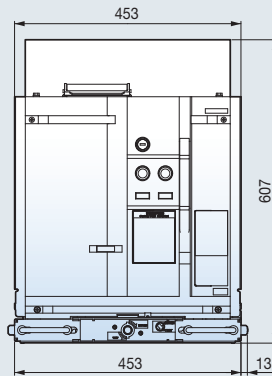
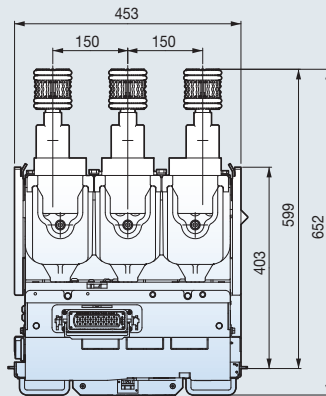


7.2kV 20, 25kA 1250A
 12, 17.5kV 16, 20, 25kA 1250A
 (H type, Clip, Phase: 150mm)

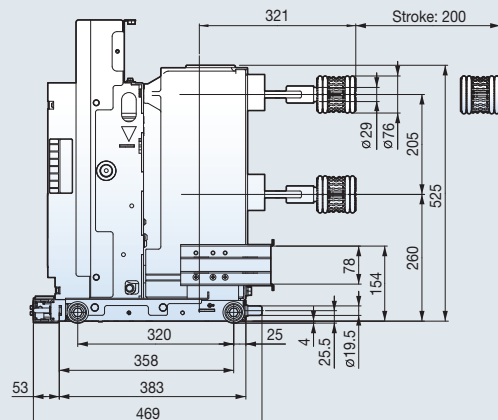
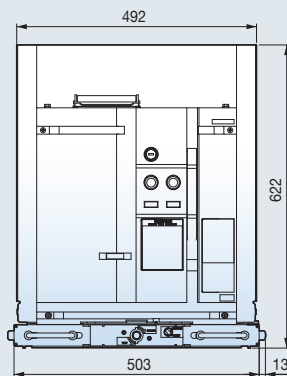
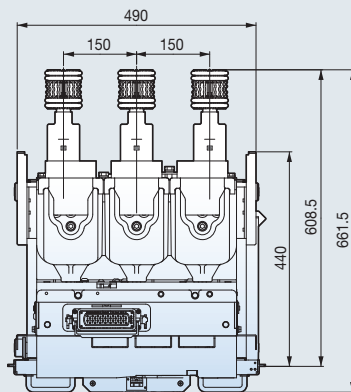


Dimensions (VCB)

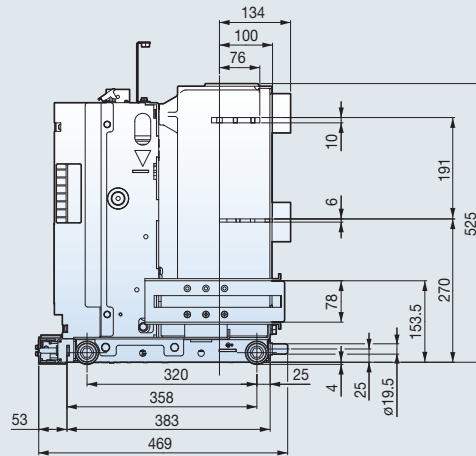
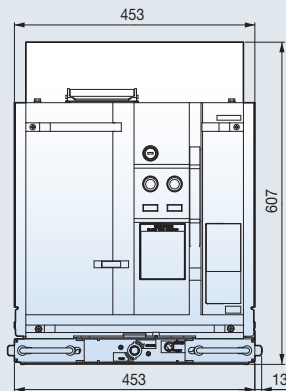
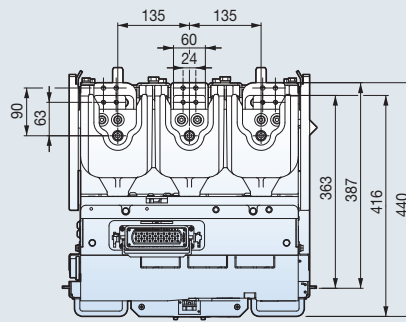
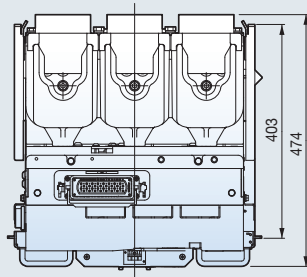
7.2kV 20, 25, 31.5kA 630, 1250A
 12, 17.5kV 16, 20, 25kA
 630, 1000, 1250A
 12, 17.5kV 31.5kA 630, 1250A
 (H type, Tulip, Phase: 150mm)



12kV 20, 25kA 630, 1000, 1250A
 (H compatible type, Phase: 150mm)

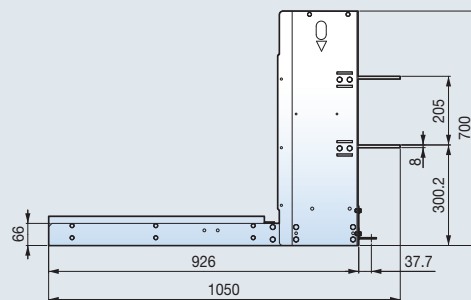
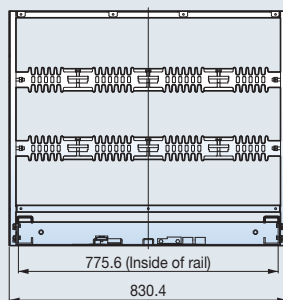
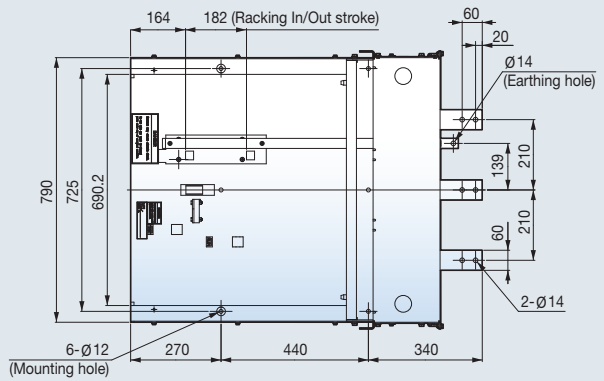


7.2kV 20, 25, 31.5kA 630, 1250A
 12, 17.5kV 16, 20, 25, 31.5kA
 630, 1000, 1250A
 (Box type, Phase: 150mm)

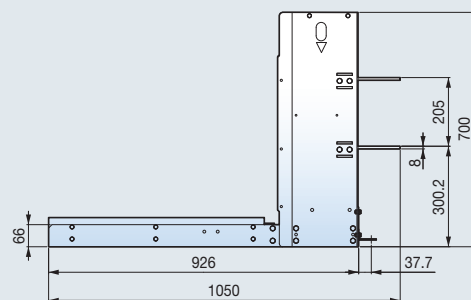
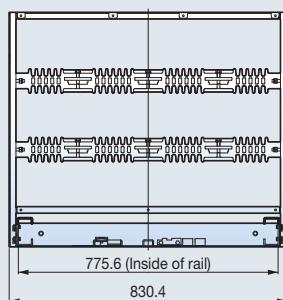
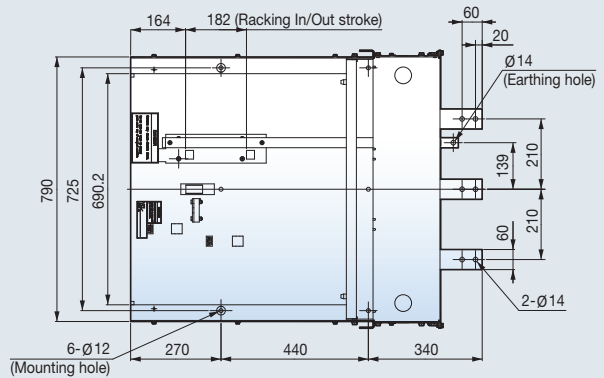


Dimensions (Cradle)

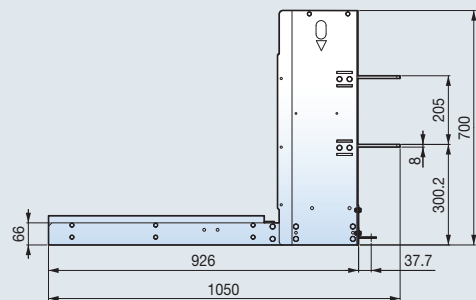
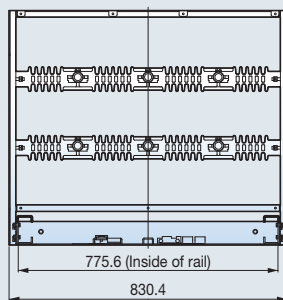
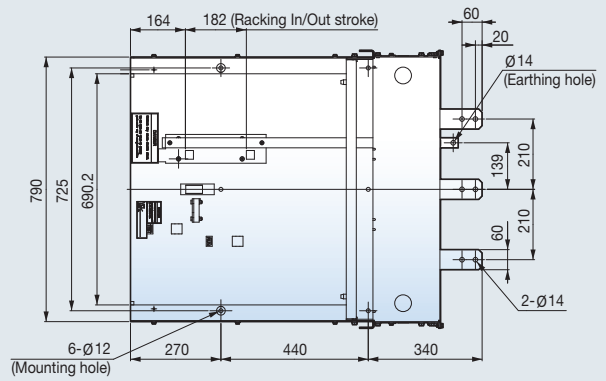
12kV 20, 25kA 630A
(E type cradle, Clip, Phase: 210mm)



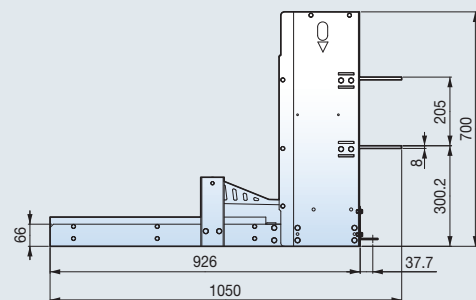
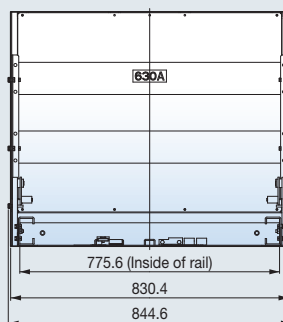
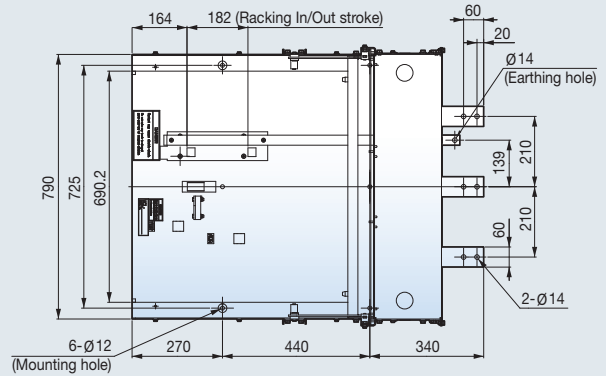
12kV 20, 25kA 1250A
(E type cradle, Clip, Phase: 210mm)



**12kV 20, 25kA 630, 1250A
(E type cradle, Tulip, Phase: 210mm)**

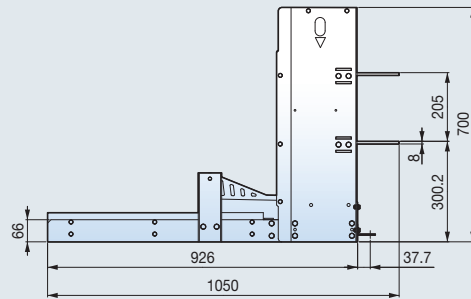
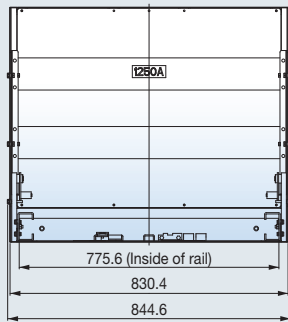
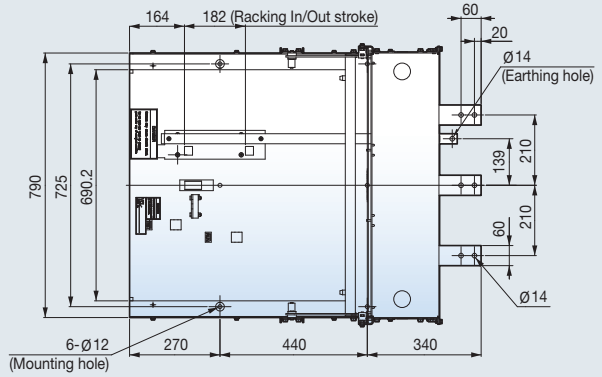


**12kV 20, 25kA 630A
(F type cradle, Clip, Phase: 210mm)**

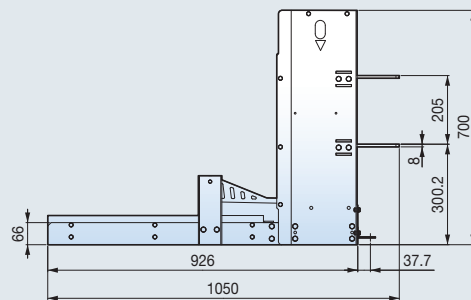
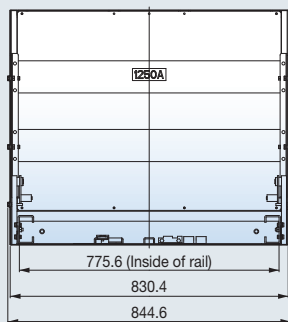
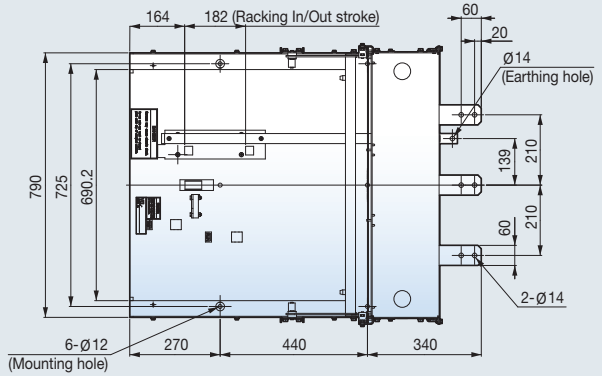


Dimensions (Cradle)

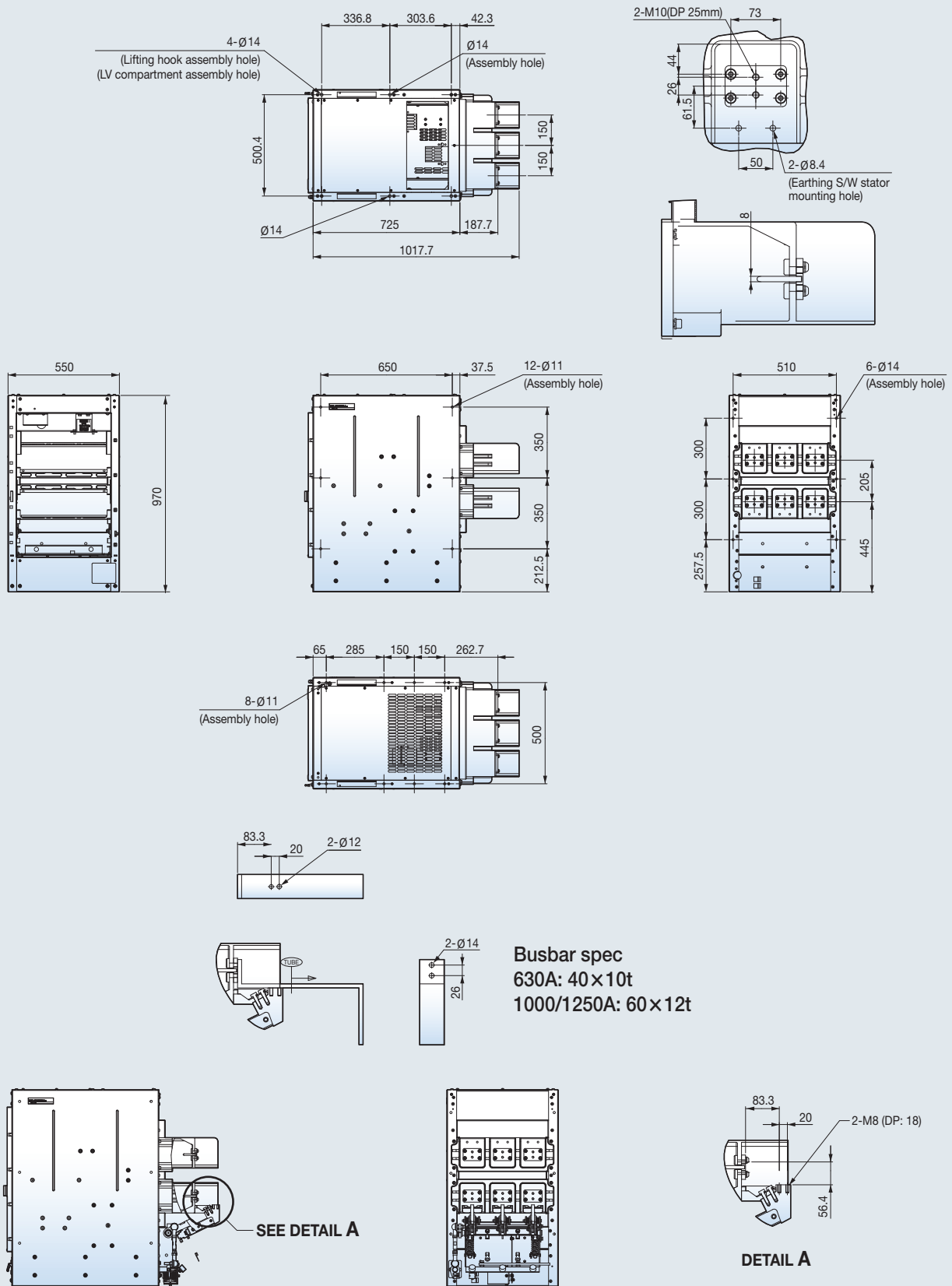
12kV 20, 25kA 1250A
(F type cradle, Clip, Phase: 210mm)



12kV 20, 25kA 630, 1250A
(F type cradle, Tulip, Phase: 210mm)

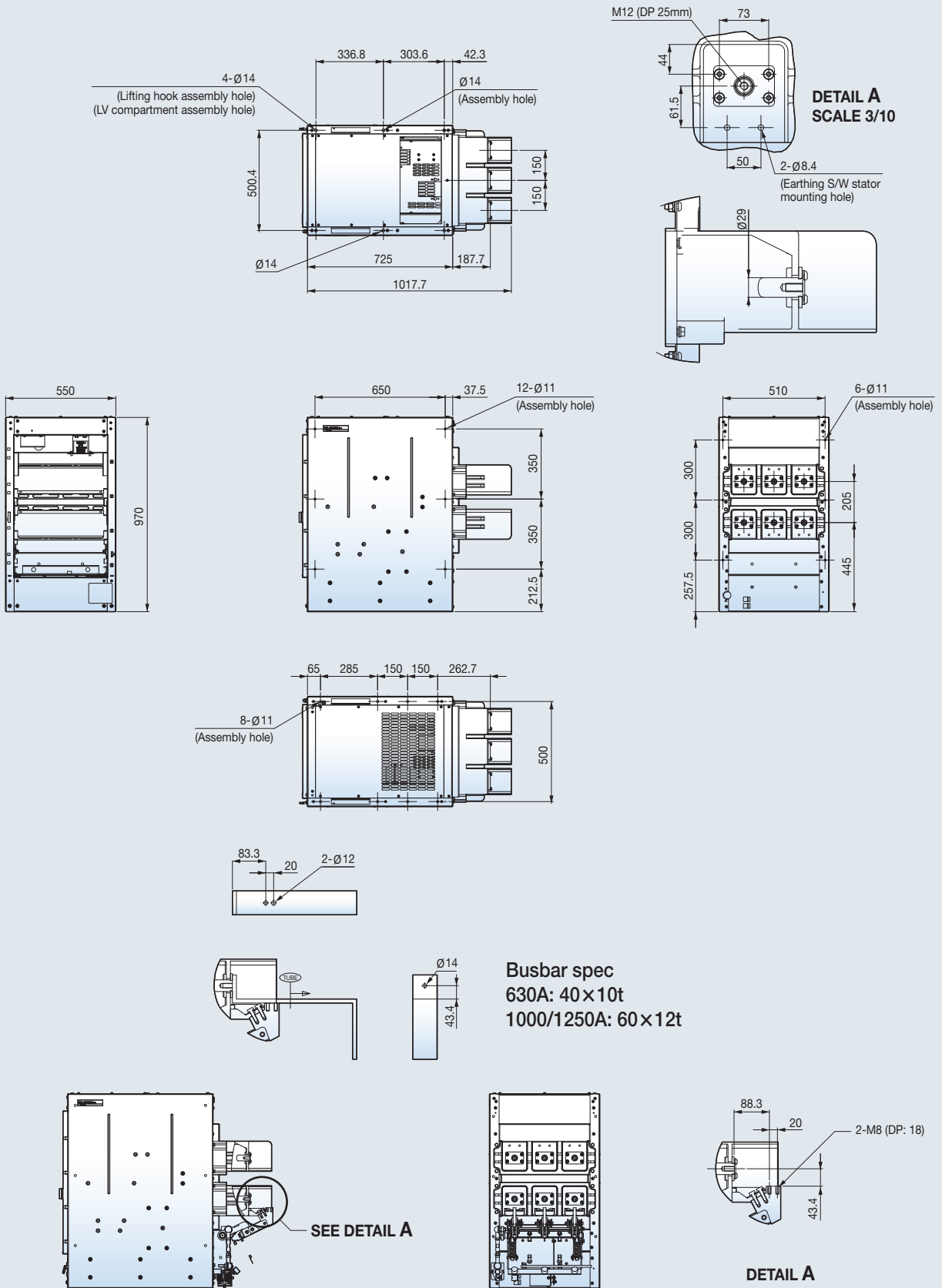


7.2, 12kV 16, 20, 25, 31.5kA 630, 1000, 1250A
(H type cradle, Clip, W: 550mm Phase: 150mm)

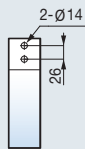
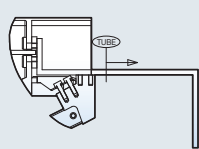
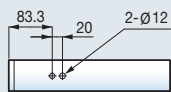
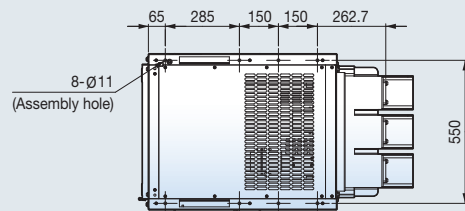
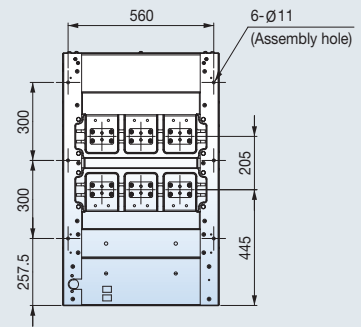
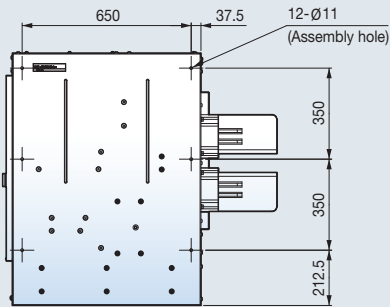
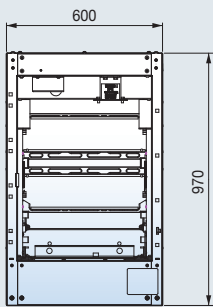
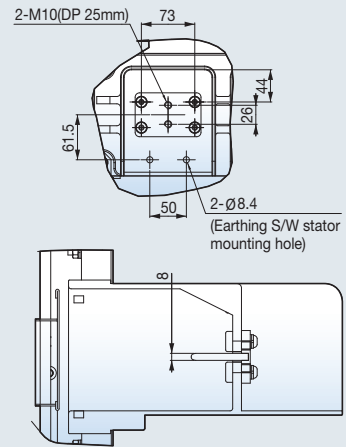
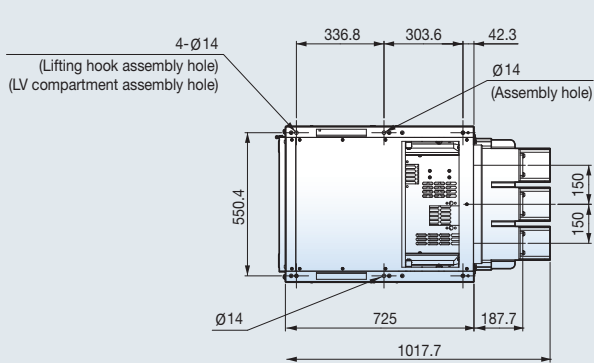


Dimensions (Cradle)

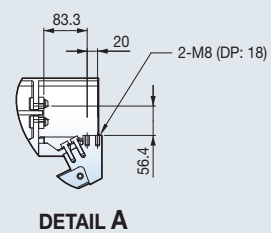
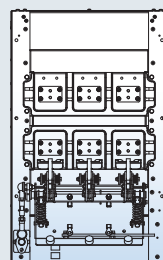
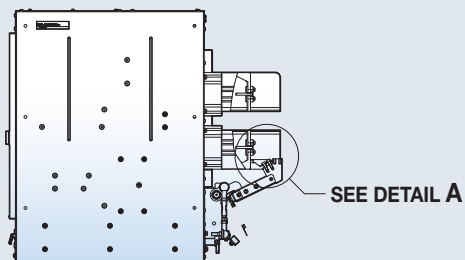
7.2, 12kV 16, 20, 25, 31.5kA 630, 1000, 1250A
 (H type cradle, Tulip, W: 550mm Phase: 150mm)



7.2, 12, 17.5kV 16, 20, 25, 31.5kA 630, 1000, 1250A
(H type cradle, Clip, W: 600mm Phase: 150mm)

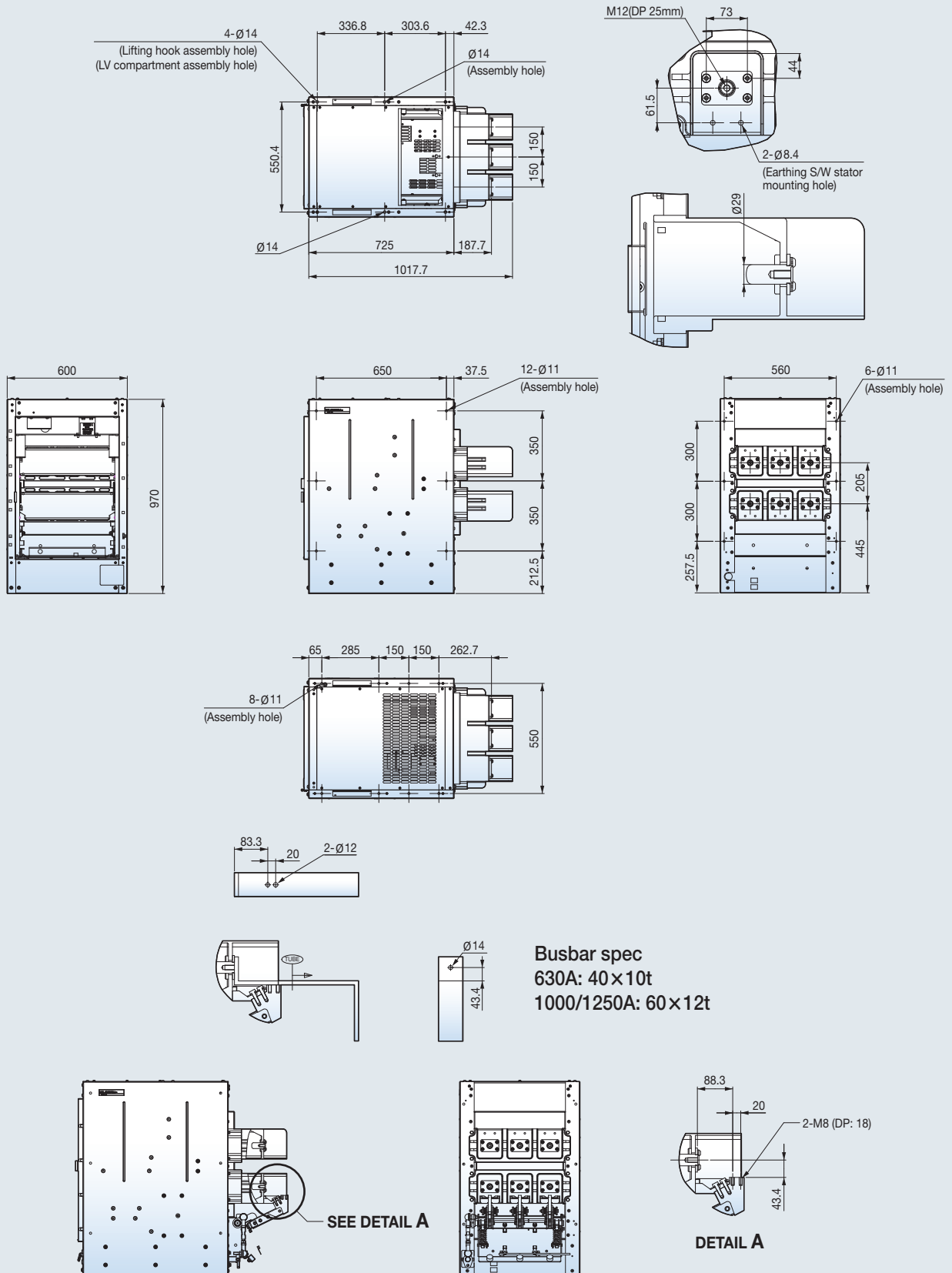


Busbar spec
630A: 40 × 10t
1000/1250A: 60 × 12t



Dimensions (Cradle)

7.2, 12, 17.5kV 16, 20, 25, 31.5kA 630, 1000, 1250A
 (H type cradle, Tulip, W: 600mm Phase: 150mm)



A large, empty rectangular area with a light blue gradient, intended for writing the content of the memo. It is bounded by a thin blue line at the top and another at the bottom.



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 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.



- According to The WEEE Directive, please do not discard the device with your household waste.



www.lselectric.co.kr

■ Headquarter

127 LS-ro (Hogye-dong) Dongan-gu, Anyang-si, Gyeonggi-Do, 14119, Korea

■ Seoul Office

LS Yongsan Tower, 92, Hangang-daero, Yongsan-gu, Seoul, 04386, Korea
Tel. 82-2-2034-4916, 4684, 4429

■ Overseas Subsidiaries

- **LS ELECTRIC Japan Co., Ltd. (Tokyo, Japan)**
Tel: 81-3-6268-8241 E-Mail: jschuna@lselectric.biz
- **LS ELECTRIC (Dalian) Co., Ltd. (Dalian, China)**
Tel: 86-411-8730-5872 E-Mail: jiheo@lselectric.com.cn
- **LS ELECTRIC (Wuxi) Co., Ltd. (Wuxi, China)**
Tel: 86-510-6851-6666 E-Mail: jdyim@lselectric.com.cn
- **LS ELECTRIC Vietnam Co., Ltd.**
Tel: 84-93-631-4099 E-Mail: jhchoi4@lselectric.biz (Hanoi)
Tel: 84-24-3823-7890 E-Mail: sjbaik@lselectric.biz (Hochiminh)
- **LS ELECTRIC Middle East FZE (Dubai, U.A.E.)**
Tel: 971-4-886-5360 E-Mail: hschoib@lselectric.biz
- **LS ELECTRIC Europe B.V. (Hoofddorp, Netherlands)**
Tel: 31-20-654-1424 E-Mail: europartner@lselectric.biz
- **LS ELECTRIC America Inc. (Chicago, USA)**
Tel: 1-800-891-2941 E-Mail: sales.us@lselectricamerica.com

■ Overseas Branches

- **LS ELECTRIC Tokyo Office (Japan)**
Tel: 81-3-6268-8241 E-Mail: jschuna@lselectric.biz
- **LS ELECTRIC Beijing Office (China)**
Tel: 86-10-5095-1631 E-Mail: chendm@lselectric.com.cn
- **LS ELECTRIC Shanghai Office (China)**
Tel: 86-21-5237-9977 E-Mail: khpaek@lselectric.com.cn
- **LS ELECTRIC Guangzhou Office (China)**
Tel: 86-20-3818-2883 E-Mail: chenxs@lselectric.com.cn
- **LS ELECTRIC Chengdu Office (China)**
Tel: 86-28-8670-3201 E-Mail: yangcf@lselectric.com.cn
- **LS ELECTRIC Qingdao Office (China)**
Tel: 86-532-8501-2065 E-Mail: wangzy@lselectric.com.cn
- **LS ELECTRIC Nanjing Office (China)**
Tel: 86-25-8467-0005 E-Mail: ylong@lselectric.com.cn
- **LS ELECTRIC Bangkok Office (Thailand)**
Tel: 66-90-950-9683 E-Mail: sjleet@lselectric.biz
- **LS ELECTRIC Jakarta Office (Indonesia)**
Tel: 62-21-2933-7614 E-Mail: dioh@lselectric.biz
- **LS ELECTRIC Moscow Office (Russia)**
Tel: 7-499-682-6130 E-Mail: jdpark1@lselectric.biz
- **LS ELECTRIC America Western Office (Irvine, USA)**
Tel: 1-949-333-3140 E-Mail: ywyun@lselectricamerica.com



Technical Question or After-sales Service

Customer Center-Quick Responsive Service, Excellent technical support

82-1644-5481