TCFS–12

The Perfect Substitute for SF_6

Compact Stationary Solid Insulated Switchgear

Product Manual

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An ideal product for energy conservation and environment protection

NEW

New technology New plan New development

- solid insulated vacuum arc-extinguishing chamber
- visual independent obvious isolated cut-off point
- safe and reliable visual independent grounding
- in accordance with the requirement of Five-protection Interlocking for electric power industry

- 10kV series of 630A/25kA and 1250A/31.5kA
- LS load switch, VC breaker cabinet series and LS-T load switch + fuse-combination unit cabinet
- BC busbar coupler cabinet, CC cable connection cabinet and ST cabinet for substations
- PT potential transformer cabinet, MT measuring tank and P potential transformer
- C current transformer, B busbar, E earthing switch, I isolating switch and A arrester

- the substitute for secondary power distribution KYN 28
- the substitute for secondary power distribution SF_6 semi-insulated Cabinet
- up in and up out
  - ○ up isolation and up earthing
  - ○ up isolation and down grounding
  - ○ down isolation and down grounding

Principle

Vacuum load switch

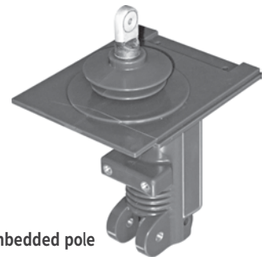
Vacuum load switch arc-extinguishing chamber

Vacuum load switch only needs to turn on or off load current that is rated operational current. It is safe and reliable with strong analytical ability, long life, less maintenance, unexposed arc, small volume, light weight and low noise, which can be used in bad environment or places needing frequently operation. As the key part of vacuum load switch and the heart of load switch unit, it decides the main function of vacuum load switch.

Vacuum breaker

Vacuum breaker arc-extinguishing chamber

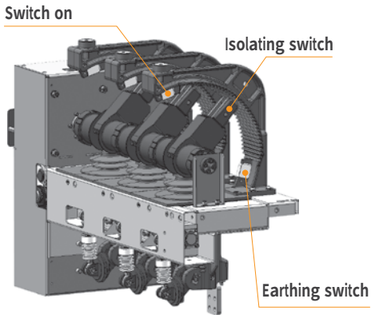
Vacuum breaker can turn on or off short-circuit current, which is used for overload and short-circuit protection of circuit and electrical equipment. It is fire-proof and explosion-proof with small clearance between open contacts, short arc time, light burn when the contact turns on or off fault current, low operating energy, fast speed, small volume, light weight, less maintenance and low noise. As the key part and heart, it decides the main function of vacuum breaker.



Epoxy embedded pole

Embedded pole

Epoxy embedded pole (also named embedded vacuum arc-extinguishing chamber) refers to cover a layer of cushioning material and then a layer of epoxy resin on the outside of vacuum switch arc-extinguishing chamber. It replaces the isolation support and mechanical support on the former breaker to reduce parts and volume of the breaker and realize integrated modularization, which is easy to install and free from maintenance with small volume and more steady and reliable voltage withstanding. It uses automatic pressure gelating (APG) technique to integrate vacuum arc-extinguishing chamber, up and down outlets and other current-carrying components. Epoxy resin is heat-resisting and anti-aging and has good vacuum tightness, reliable insulativity, good high and low temperature impact and mechanical shock, free from maintenance, small body and easy to install, especially for high altitude and high-pollution environment.



Isolated earthing technology

It uses a structure integrating three-position isolating switch and vacuum breaker. You can clearly see the fracture of isolating knife when the brake of isolating switch is turned off. It is safe and reliable and can meet requirements for obvious cut-off point of electric power departments.

Application fields

Mine plant　Residence　Transportation
Chemical engineering　Petrochemistry
Power supply station　Oil　Building

Product Overview

Introduction

TCFS-12 Compact Stationary Solid Insulated Switchgear (hereinafter referred to as “switchgear”) is a new generation of extensible, modularized and free-maintenance metal enclosed switchgear, which is widely used in 3-12kVand 50Hz electric system. Its switches are including:

- TLS load switch
- TLS-T load switch+ fuse-combination unit
- TVC breaker
- TLG isolated earthing switch

Standards

It conforms to the following standards and regulations:

GB311.1	Insulation coordination Part 1 Definition, principle and rules
GB3804	3.6kV~40.5kV high voltage AC load switch
GB1984	High voltage AC breaker
GB3906	3.6kV~40.5kV AC metal enclosed switch and control equipment
GB/T11022	Common technical requirements for high voltage switch and control equipment
GB/16296	High voltage AC load switch Fuse-combination unit
DL/T403	Specification for ordering 12kV~40.5kV high voltage vacuum breaker
DL/T593	Common technical requirements for high voltage switch and control equipment
DLT404	Standards for 3.6kV~40.5kV AC metal enclosed switch and control equipment

Features

Miniaturization:	The width of load switchgear and breaker cabinetis only 400mm;
Stationary type:	The body is made up of two units with fixed setting method;
Solid insulation:	The embedded vacuum arc-extinguishing chamber can reduce parts, environmental and stable;
Switchgear:	Load switchgear: 630A/25kA and 1250A/25kA,
Scheme for whole series:	Breaker cabinet: 630A/25kA and 1250A/31.5kA, Load switch + fuse-combination unit cabinet: 200A/31.5kA Up isolation and up earthing; Up isolation and down earthing; Down isolation and down earthing; Up in and up out.

Meet users’ needs for various loads.

Items selected by cabinets

Rated parameter

	TVC, TLS, TLG		TLS-T
Rated Voltage (kV)	12		/
Rated Frequency (Hz)	50		/
Rated Current (A)	1250		200
Rated Insulation Level			
Main Circuit			
1 min Power-frequency WithstandingVoltage (kV effective value)	Phase-to-ground and interphase Fracture		42 48
Lightning Impulse Withstanding Voltage (kV peak value)	Phase-to-ground and interphase Fracture		75 85
Subsidiary Circuit			
1 min Power-frequency Withstanding Voltage (kV)	to ground		2
Rated Short-time Withstanding Current (kA)	TVC	TLS	TLS-T
Main Circuit/Earthing switch	31.5	25	/
Earthing Circuit	27.3	21.7	/
Rated Peak Value Withstanding Current (kA)			
Main Circuit/Earthing switch	80	63	/
Earthing Circuit	69.4	54.6	/
Rated Breaking Capacity			
Rated Short-circuit Breaking Current (kA)	31.5	/	31.5
Rated Short-circuit Making Current (kA peak value)	80	63	/
Rated Transfer Current Magnitude (A)	/	/	3150
Duration of Rated Short-circuit (s)			
Main Circuit/Earthing switch	4		
Earthing Circuit	4		
Rated Operation Sequence	Off – 0.3s – on-off – 180s – on-off		
Frequency of Breaking and Operation	30 times for breaking		
Mechanical Life of Breaker	10,000 times for operation		
Mechanical Life of Three-position Isolating Switch	5,000 times for operation		

Introduction to function code

LS: load switchgear series VC: breaker cabinet series LS-T: load switch + fuse-combination unit cabinet
BC: busbar connection cabinet CC: cable connection cabinet ST: cabinet for substations
PT: potential transformer cabinet MT: measuring tank P: potential transformer C: current transformer
B: busbar E: earthing switch I: isolating switch A: arrester

Introduction to superscript letters

a: up isolation and up earthing b: up isolation and down earthing
c: down isolation and down earthing

Introduction to cabinets

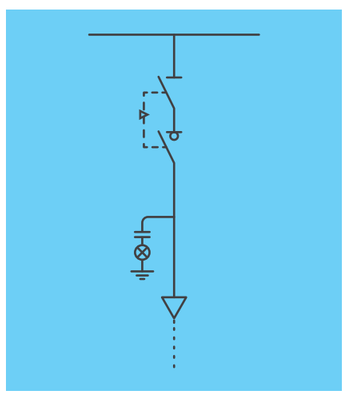
The following products are TCFS series used in medium voltage distribution station, medium/low voltage substation:

- ☐ LS-P, LS-P, LS-E, LS-E-A, LS-E-P, LS-B: load switch inlet wire, outlet wireand connecting cabinet
- ☐ VC, VC-P, VC-E, VC-E-P, VC-A, VC-E-A, VC-B: breaker switch inlet wire, outlet wire and connection cabinet
- ☐ PT, PT-I-E-A, MT, MT-I-E: measuring tank
- ☐ CC, CC-I-A: cable inlet-outlet wire cabinet
- ☐ BC, BC-I: busbar coupler cabinet ☐ ST: cabinet for substations

Items selected by load switchgear

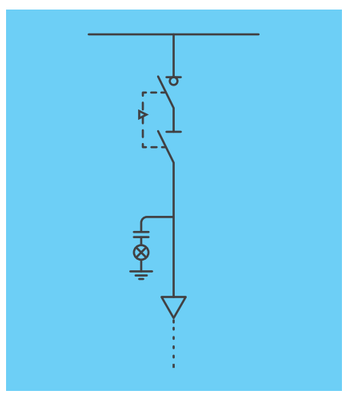
LSa
Standard width500mm
Selectable400,450,650mm

Inlet wire cabinet



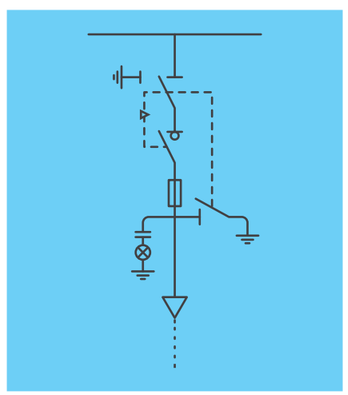
LSc
Standard width500mm
Selectable650mm

Inlet wire cabinet



LS-T
Standard width500mm
Selectable375,400,450,650mm

Outlet wire cabinet



Basic equipment

- Load switch
- Isolating switch
- Energy storing handle
- Operating handle
- Charge indicator
- Standard busbar
- Electromagnetic lock
- Up in and up out (specific)
- Subsidiary earthing switch

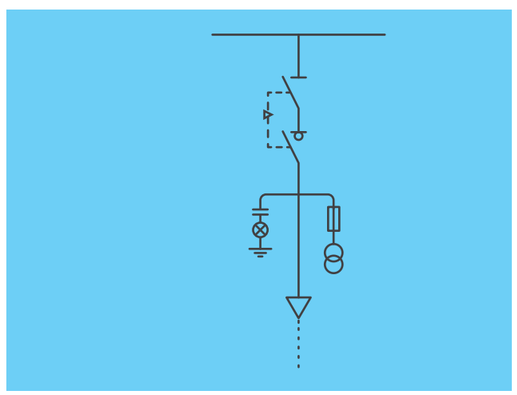
Selectable parts

- Load switch motor
- Isolating switch motor
- Subsidiary contact
- Key blocking
- Fault indicator
- Phase sequence meter
- Incision CT
- Three in two (two in one) interlocking
- Pointer table
- Multifunctional instrument
- Anti-condensation device

Items selected by load switchgear

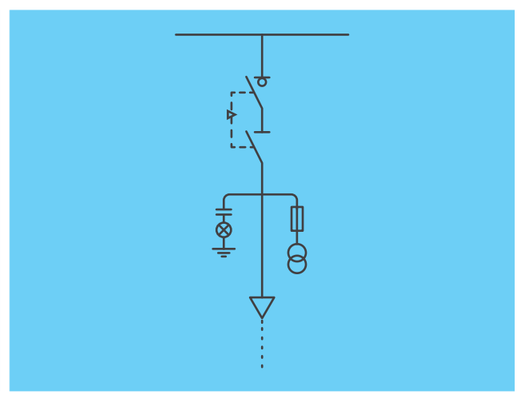
LS-Pa
Standard width650mm

Inlet-outlet wire cabinet with PT



LS-Pc
Standard width650mm

Inlet-outlet wire cabinet with PT



Basic equipment

- Load switch
- Isolating switch
- Energy storing handle
- Operating handle
- Charge indicator
- Standard busbar
- Electromagnetic lock
- Potential Transformer
- Potential Transformer

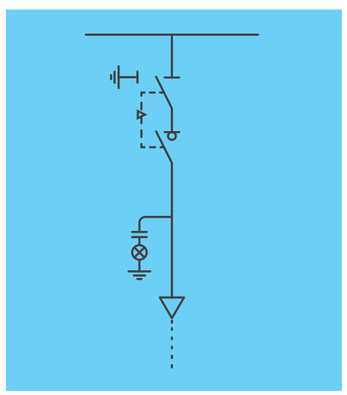
Selectable parts

- Load switch motor
- Isolating switch motor
- Subsidiary contact
- Key blocking
- Fault indicator
- Phase sequence meter
- Incision CT
- Three in two (two in one) interlocking
- Pointer table
- Multifunctional instrument
- Anti-condensation device

Items selected by load switchgear

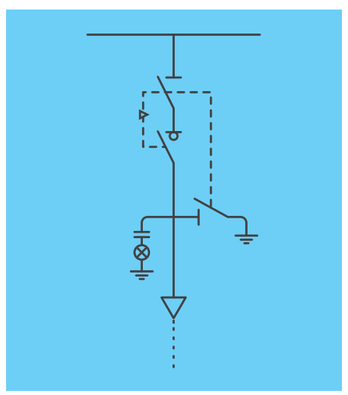
LS-Ea
Standard width500mm
Selectable400,450,650mm

Inlet wire cabinet



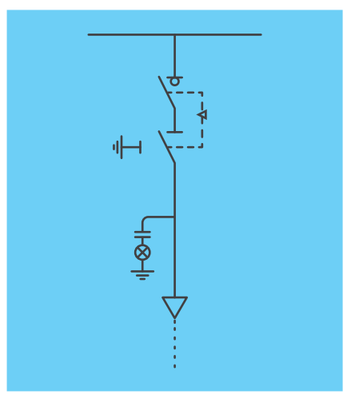
LS-Eb
Standard width500mm
Selectable650mm

Outlet wire cabinet



LS-Ec
Standard width500mm
Selectable650mm

Outlet wire cabinet



Basic equipment

- Load switch
- Isolating switch
- Energy storing handle
- Operating handle
- Charge indicator
- Standard busbar
- Earthing switch

- Up in and up out (specific)
- Up in and up out (specific)

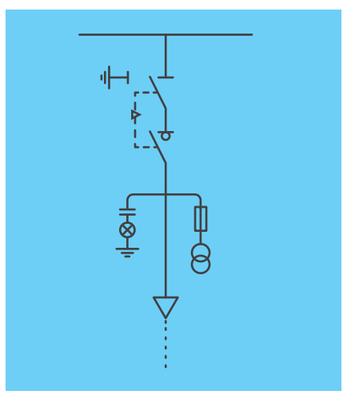
Selectable parts

- Load switch motor
- Isolating switch motor
- Subsidiary contact
- Key blocking
- Fault indicator
- Phase sequence meter
- Incision CT
- Three in two (two in one) interlocking
- Pointer table
- Multifunctional instrument
- Anti-condensation device

Items selected by load switchgear

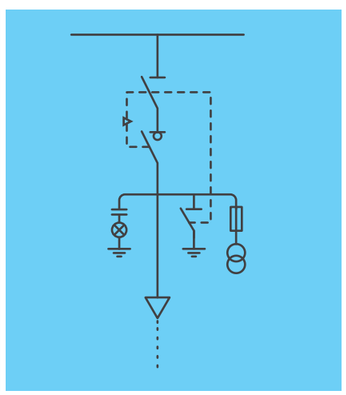
LS-E-Pa
Standard width650mm

Inlet-outlet wire cabinet with PT



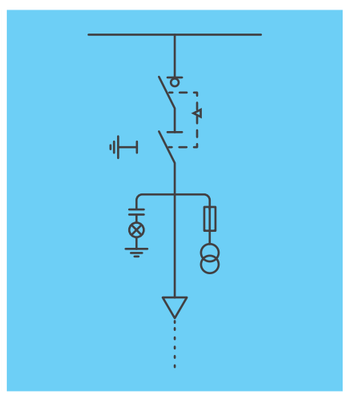
LS-E-Pb
Standard width650mm

Inlet-outlet wire cabinet with PT



LS-E-Pc
Standard width650mm

Inlet-outlet wire cabinet with PT



Basic equipment

- Load switch
- Isolating switch
- Energy storing handle
- Operating handle
- Charge indicator
- Standard busbar
- Earthing switch
- Potential Transformer

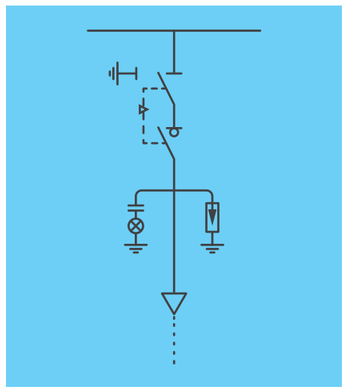
Selectable parts

- Load switch motor
- Isolating switch motor
- Subsidiary contact
- Key blocking
- Fault indicator
- Phase sequence meter
- Incision CT
- Three in two (two in one) interlocking
- Pointer table
- Multifunctional instrument
- Anti-condensation device
- Inlet wire earthing electrical blocking

Items selected by load switchgear

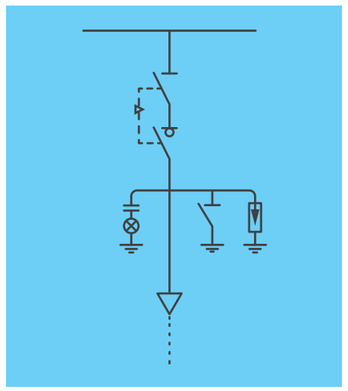
LS-E-Aa
Standard width500mm
Selectable650mm

Inlet-outlet wire cabinet with arrester



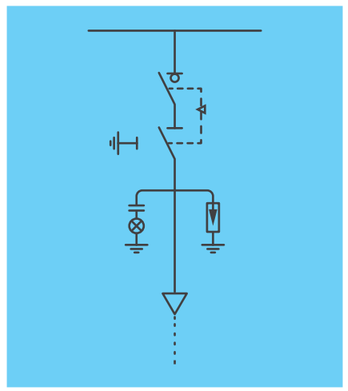
LS-E-Ab
Standard width500mm
Selectable650mm

Inlet-outlet wire cabinet with arrester



LS-E-Ac
Standard width500mm
Selectable650mm

Inlet-outlet wire cabinet with arrester



Basic equipment

- Load switch
- Isolating switch
- Energy storing handle
- Operating handle
- Charge indicator
- Standard busbar
- Earthing switch
- Arrester

- Up in and up out (specific)
- Up in and up out (specific)

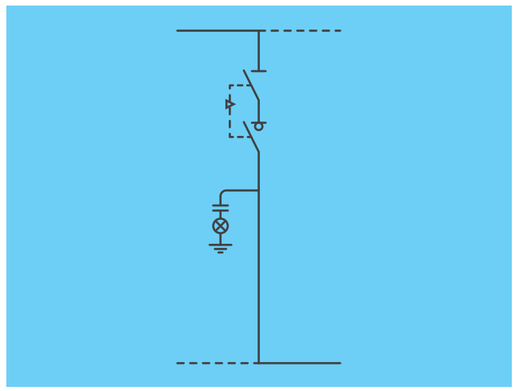
Selectable parts

- Load switch motor
- Isolating switch motor
- Subsidiary contact
- Key blocking
- Fault indicator
- Phase sequence meter
- Incision CT
- Three in two (two in one) interlocking
- Pointer table
- Multifunctional instrument
- Anti-condensation device
- Inlet wire earthing electrical blocking

Items selected by load switchgear

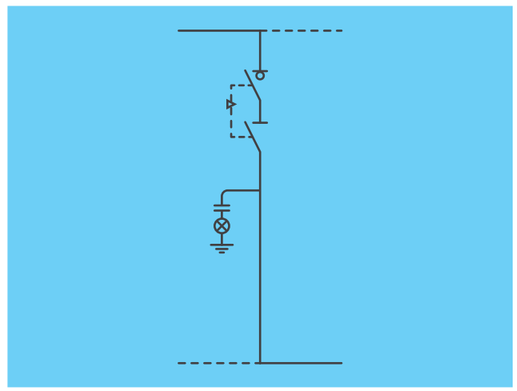
LS-Ba
Standard width500mm
Selectable400,450,650mm

Busbar coupler cabinet



LS-Bc
Standard width500mm
Selectable650mm

Busbar coupler cabinet



Basic equipment

- Load switch
- Isolating switch
- Energy storing handle
- Operating handle
- Charge indicator
- Standard busbar
- Electromagnetic lock
- Transfer busbar

- Up in and up out (specific)

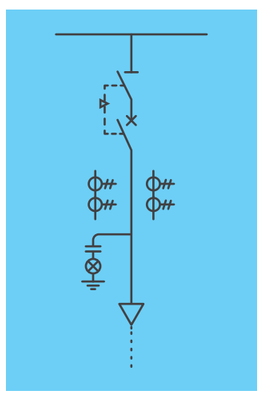
Selectable parts

- Load switch motor
- Isolating switch motor
- Subsidiary contact
- Key blocking
- Fault indicator
- Phase sequence meter
- Incision CT
- Three in two (two in one) interlocking
- Pointer table
- Multifunctional instrument
- Anti-condensation device

Items selected by breaker cabinet

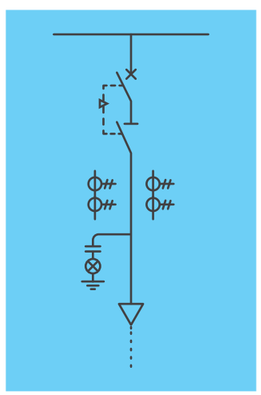
VCa
Standard width500mm
Selectable650mm

Inlet wire cabinet



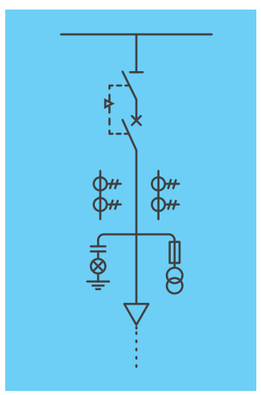
VCc
Standard width500mm
Selectable650mm

Inlet wire cabinet



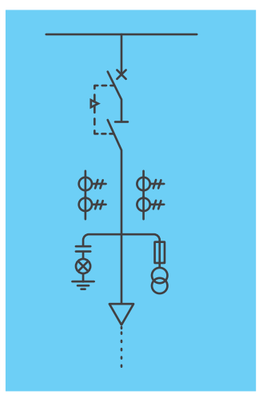
VC-Pa
Standard width650mm

Inlet- wire cabinet with PT



VC-Pc
Standard width650mm

Inlet-outlet wire cabinet with PT



Basic equipment

- Breaker
- Energy storing motor
- Isolating switch
- Energy storing handle
- Operating handle
- Charge indicator
- Feedthrough current transformer
- Self-powered relay
- Standard busbar
- Electromagnetic lock

- Up in and up out (specific)
- Potential transformer

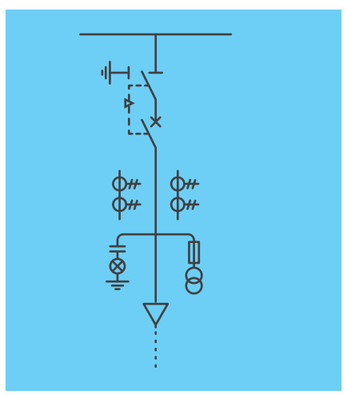
Selectable parts

- Comprehensive Protector
- Isolating switch motor
- Overcurrent coil
- Subsidiary contact
- Key blocking
- Fault indicator
- Phase sequence meter
- Stationary CT
- Pointer table
- Multifunctional instrument
- Anti-condensation device
- Three in two (two in one) interlocking

Items selected by breaker cabinet

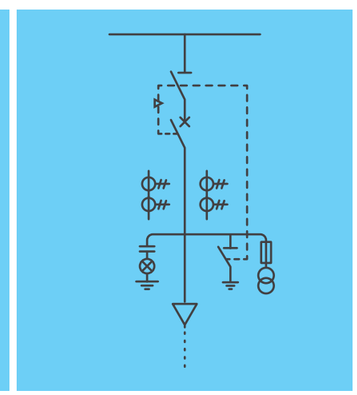
VC-E-Pa
Standard width650mm

Inlet-outlet wire cabinet with PT



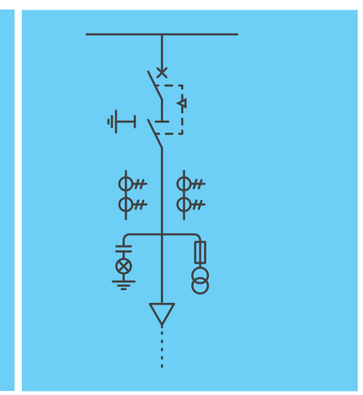
VC-E-Pb
Standard width650mm

Inlet-outlet wire cabinet with PT



VC-E-Pc
Standard width650mm

Inlet-outlet wire cabinet with PT



Basic equipment

- Breaker
- Energy storing motor
- Isolating switch
- Energy storing handle
- Operating handle
- Charge indicator
- Feedthrough Current Transformer
- Self-powered relay
- Standard busbar
- Earthing switch
- Potential transformer

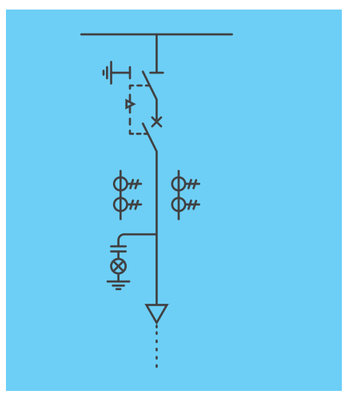
Selectable parts

- Comprehensive Protector
- Isolating switch motor
- Overcurrent coil
- Subsidiary contact
- Key blocking
- Fault indicator
- Phase sequence meter
- Stationary CT
- Pointer table
- Multifunctional instrument
- Anti-condensation device
- Three in two (two in one) interlocking
- Inlet wire earthing electrical blocking

Items selected by breaker cabinet

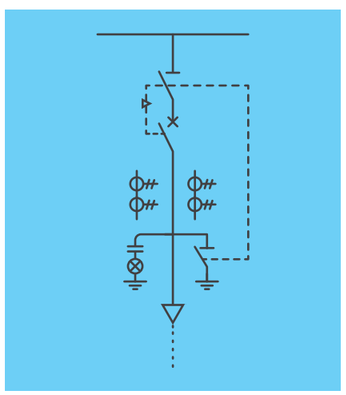
VC-E$_a$
Standard width500mm
Selectable650mm

Outlet wire cabinet



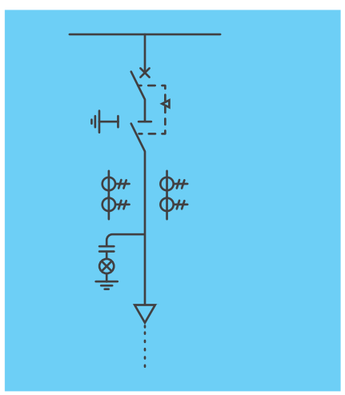
VC-E$_b$
Standard width500mm
Selectable650mm

Outlet wire cabinet



VC-E$_c$
Standard width500mm
Selectable650mm

Outlet wire cabinet



Basic equipment

- Breaker
- Energy storing motor
- Isolating switch
- Energy storing handle
- Operating handle
- Charge indicator
- Feedthrough current transformer
- Self-powered relay
- Standard busbar
- Earthing switch

- Up in and up out (specific)
- Up in and up out (specific)

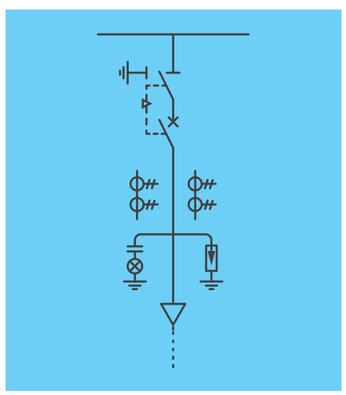
Selectable parts

- Comprehensive Protector
- Isolating switch motor
- Overcurrent coil
- Subsidiary contact
- Key blocking
- Fault indicator
- Phase sequence meter
- Stationary CT
- Pointer table
- Multifunctional instrument
- Anti-condensation device
- Three in two (two in one) interlocking

Items selected by breaker cabinet

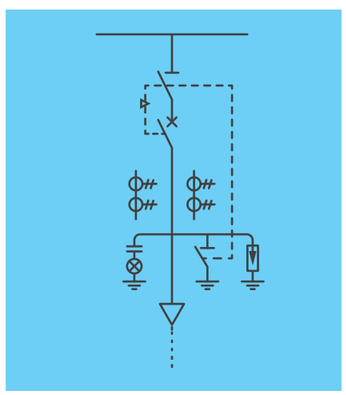
VC-E-A$_a$
Standard width500mm
Selectable650mm

Inlet-outlet wire cabinet with arrester



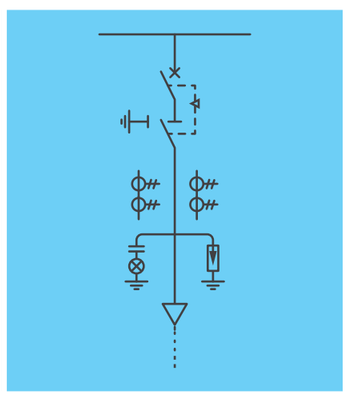
VC-E-A$_b$
Standard width500mm
Selectable650mm

nlet-outlet wire cabinet with arrester



VC-E-A$_c$
Standard width500mm
Selectable650mm

nlet-outlet wire cabinet with arrester



Basic equipment

- Breaker
- Energy storing motor
- Isolating switch
- Energy storing handle
- Operating handle
- Charge indicator
- Feedthrough current transformer
- Self-powered relay
- Standard busbar
- Earthing switch
- Arrester

- Up in and up out (specific)
- Up in and up out (specific)

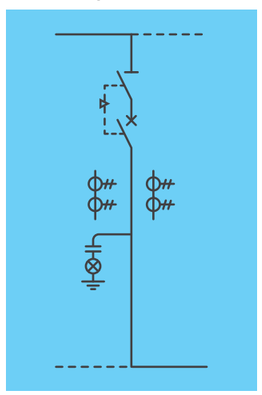
Selectable parts

- Comprehensive Protector
- Isolating switch motor
- Overcurrent coil
- Subsidiary contact
- Key blocking
- Fault indicator
- Phase sequence meter
- Stationary CT
- Pointer table
- Multifunctional instrument
- Anti-condensation device
- Three in two (two in one) interlocking
- Inlet wire earthing electrical blocking

Items selected by breaker cabinet

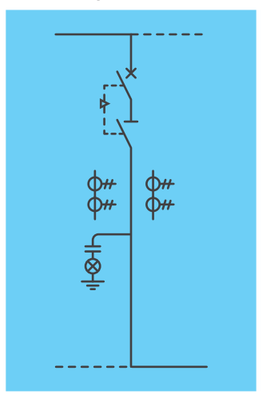
VC-Ba
Standard width500mm
Selectable650mm

Busbar coupler cabinet



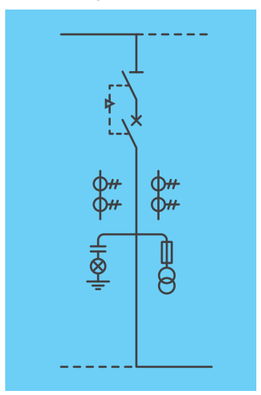
VC-Bc
Standard width500mm
Selectable650mm

Busbar coupler cabinet



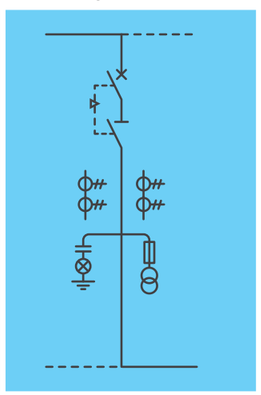
VC-B-Pa
Standard width650mm

Busbar coupler cabinet



VC-B-Pc
Standard width650mm

Busbar coupler cabinet



Basic equipment

- Breaker
- Energy storing motor
- Isolating switch
- Energy storing handle
- Operating handle
- Charge indicator
- Electromagnetic lock
- Self-powered relay
- Standard busbar

- Transfer busbar
- Up in and up out (specific)

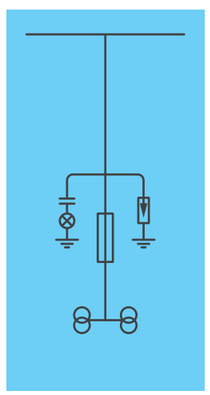
Selectable parts

- Comprehensive Protector
- Isolating switch motor
- Overcurrent coil
- Subsidiary contact
- Stationary CT
- Key blocking
- Phase sequence meter
- Pointer table
- Multifunctional instrument
- Anti-condensation device
- Three in two (two in one) interlocking

Items selected by measuring meter cabinet

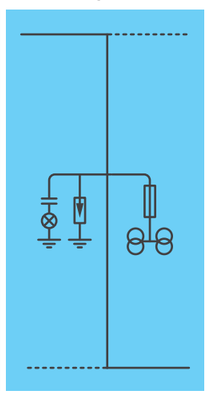
PT-A
Standard width500mm
Selectable650mm

PT arrester cabinet



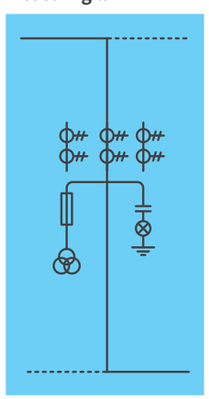
PT-A-BC
Standard width650mm

PT arrester cabinet with busbar coupler



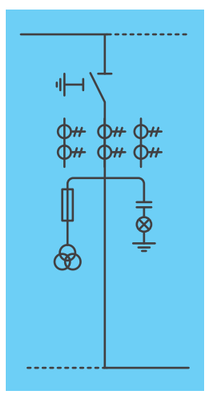
MT
Standard width650mm

Measuring tank



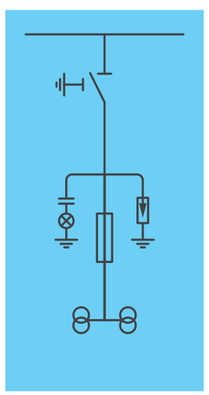
MT-I-E
Standard width650mm

Measuring tank with isolation



PT-I-E-A
Standard width500mm
Selectable450,650mm

PT arrester cabinet



Basic equipment

- Charge indicator
- Potential transformer (supplied by Electric Power Bureau)
- Pointer table
- Standard busbar
- Electromagnetic lock

- Arrester

- Arrester
- Transfer busbar

- Transfer busbar
- Current transformer (supplied by Electric Power Bureau)

- Arrester

- Isolating switch
- Earthing handle
- Operating handle

Selectable parts

- Phasing device
- Pointer table
- Multifunctional instrument

- Isolating switch motor

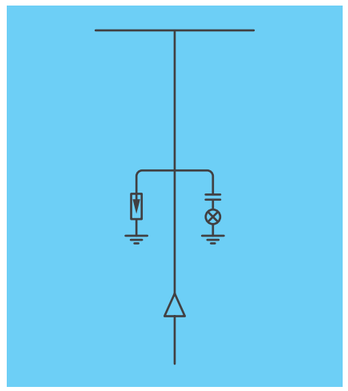
- Measuring device(supplied by Electric Power Bureau)

Items selected by special cabinet

CC-A

Standard width500mm
Selectable400,450,650mm

Inlet-outlet wire cabinet with arrester



Basic equipment

- Breaker
- Charge indicator
- Electromagnetic lock

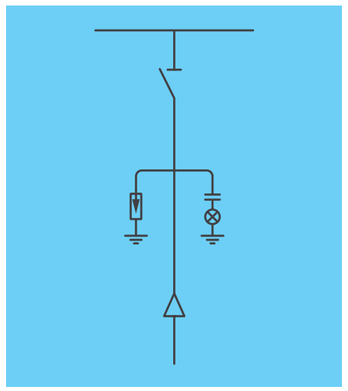
Selectable parts

- Phasing device

CC-I-A

Standard width500mm
Selectable450,650mm

Inlet-outlet wire cabinet with arrester



Basic equipment

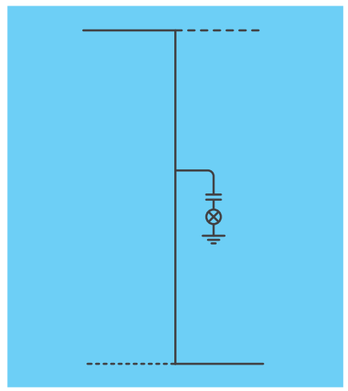
- Isolating switch
- Operating handle
- Charge indicator
- Electromagnetic lock
- Arrester

- Up in and up out (specific)

BC

Standard width500mm
Selectable400,450,650mm

Busbar coupler



Basic equipment

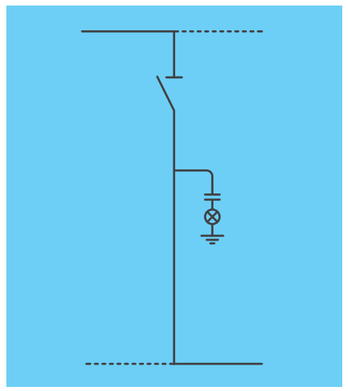
- Charge indicator
- Electromagnetic lock

Items selected by special cabinet

BC-I

Standard width500mm
Selectable450,650mm

Busbar coupler



Basic equipment

- Charge indicator
- Electromagnetic lock
- Isolating switch
- Operating handle

- Up in and up out (specific)

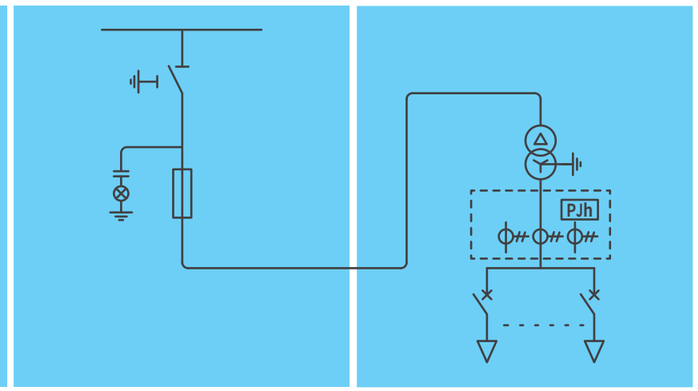
Selectable parts

- Isolating switch motor
- Arrester

ST

Standard width450mm+850mm

ST cabinet for substations



Basic equipment

- Isolating switch
- Fuse
- Operating handle
- Charge indicator

Selectable parts

- Isolating switch motor
- Phasing device
- Arrester

Basic equipment

- Transformer (30-50kVA)
- Electromagnetic lock

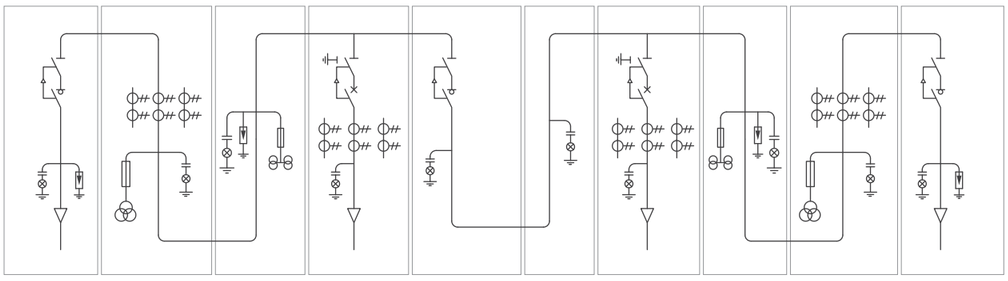
Selectable parts

- Current transformer (supplied by Electric Power Bureau)
- MCCB
- Pointer table
- Multifunctional instrument (supplied by Electric Power Bureau)

Typical scheme

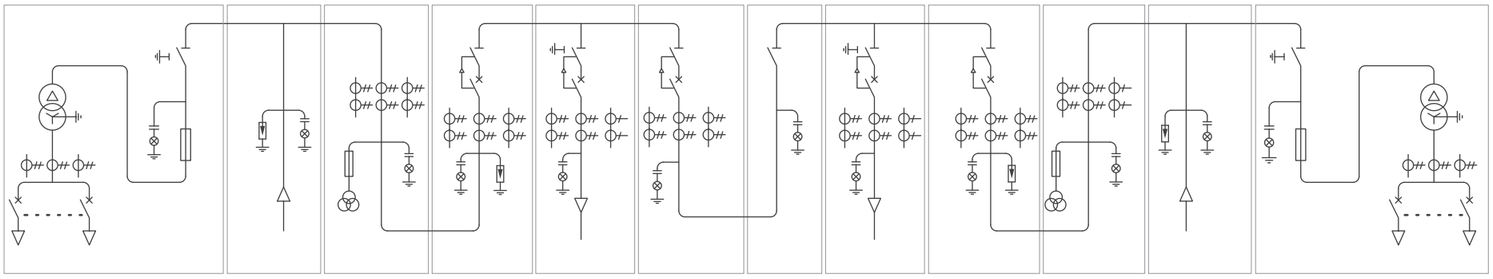
Scheme 1: Simplified scheme of two in and two out – busbar coupler

LS–E–Aa MT PT-A-BC VC–Ea LS–B BC VC–Ea PT-A-BC MT LS–E–Aa



Scheme 2: Traditional scheme of two in and two out – busbar coupler

ST CC–A MT VC–E–Aa VC–Ea VC–Ba BC–I VC–Ea VC–E–Aa MT CC–A ST



Structural parts

Safety

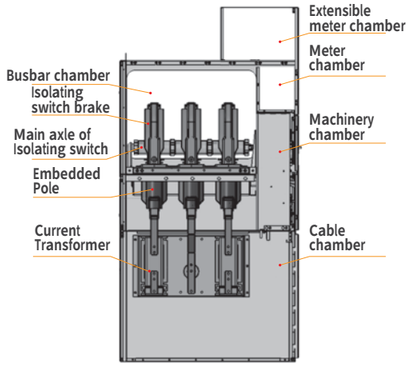
Reliability

Environmental Protection

Universality

Modularization

Miniaturization

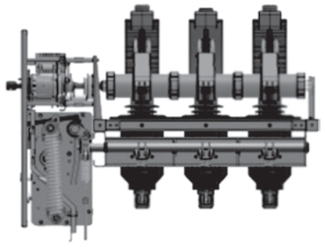


Physical design of switchgear

The body of switchgear is assembled by processed and bent high-strength galvanized steel plates with high-strength bolts. The switchgear with integral design has high mechanical strength, precision and resistance to corrosion and oxidation with good-looking appearance. The meter chamber and switchgear body are in assembly structure. You can remove the switchgear out without dismantling the secondary connection in replacement, which reduces workload of maintenance. Door plank of breaker chamber is in the pattern of fixed setting. The secondary cable channel is on both sides of front switchgear.

Vacuum switch Three-position isolating switch combination apparatus Integrated design of vacuum switch and Isolating switch

TVC and TLS-12 vacuum switch - three-position Isolating switch combination apparatus has the function of vacuum switch and Isolating switch.
The Isolating switch has the structure of three-position longitudinal and rotational arrangement in manual manipulation (electric operating mechanism is available) with the function of switch on, isolation and grounding.



■ Vacuum (load) switch + three-position Isolating switch combination

■ Vacuum (load) switch + three-position Isolating switch combination

Precise, programmable and accurate pure mechanical interlocking device

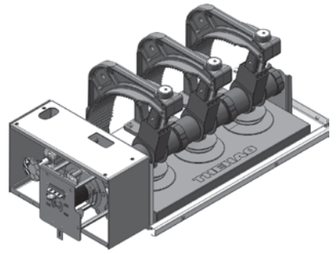
Isolating (earthing) switch can only be operated under the condition of switch off of breaker (load switch) instead of switch on.

The breaker can be on when the isolating switch is connected with main busbar and the switch is off when the breaker is off. When there is a maintenance for feeder cable, you can put isolating switch on isolating position and then to earthing position to realize effective grounding. On the contrary, the breaker is off first, and then the isolating switch is separated from earthing position to enter isolating position. For power transmission, the breaker can be closed only when isolating switch reaches switch on position from isolating position.

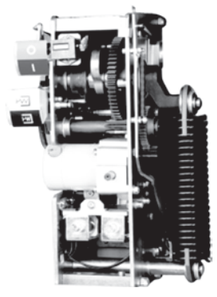
Advantages of the design:

Making short-circuit current is carried by breaker vacuum arc-extinguishing chamber when the feeder cable is under the condition of breaker. The good ability of making short-circuit current of the chamber can greatly improve the making ability of switchgear earthing fault and prevent the damage caused by exposure of arc to reduce (avoid) the maintenance for earthing fault.
It realizes compound function of each component, simplifies the structure, reduces the cost and narrows the size of switchgear. The minimum width of the switchgear can be 400mm.

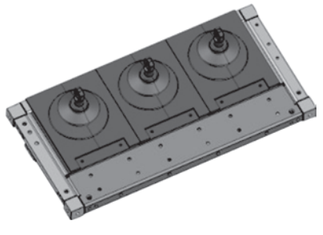
Structural parts



■ Three-position isolating / earthing switch



■ Fully modularized mechanism design



■ Design with through-wall clapboard

Three-position isolating / earthing switch

TLG-12 three-position isolating / earthing switch is rotary and single-break.

■ Its remarkable advantages are as follows:

- □ The isolating switch has three-phase main axle, which can have three positions through the rotation of the main axle. The structure can make sure the synchronism of isolating switch and reduce the intermediary transmission process.
- □ The fixed contact on switch on and earthing position of isolating switch is fixed on an arc insulating base. The switch of main axle moves in the groove of the base, which has higher insulativity.

Fully modularized mechanism

Fully modularized mechanism design can make the whole functional structure of breaker clear, operation and maintenance simple and reliable.

■ Modularized parts which can be replaced fast without influencing the feature of products

- □ Motor
- □ Overcurrent trip coil
- □ Blocking trip coil

■ Secondary control parts easy to maintain

- □ Control switch in energy storing position
- □ Subsidiary switch in on-off position
- □ Secondary control module

■ Convenient and humanized operating handle

Our design makes operation and maintenance convenient. Quick-wear parts can be easily changed including switch on and off of electromagnet, motor and overcurrent trip electromagnet.

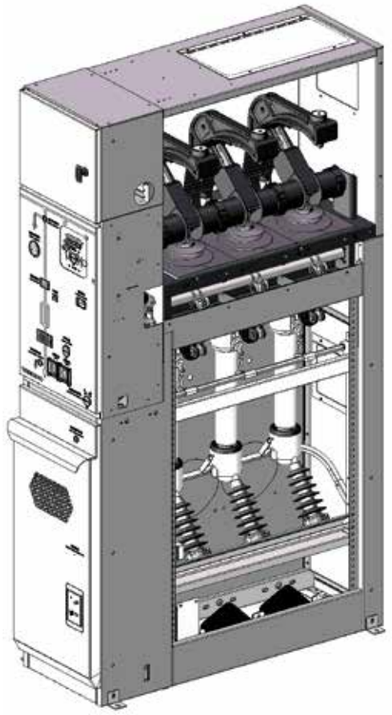
Design with through-wall clapboard

There is isolating partition between breaker and isolating switch for TVC and TLS-12 vacuum switch-three-position isolating switch combination apparatus, which can effectively separate the upper isolating switch from lower breaker. It is installed in the switchgear which can separate busbar chamber from breaker without increasing clapboard.

Structural parts

Load Switch + Fuse-combination Unit

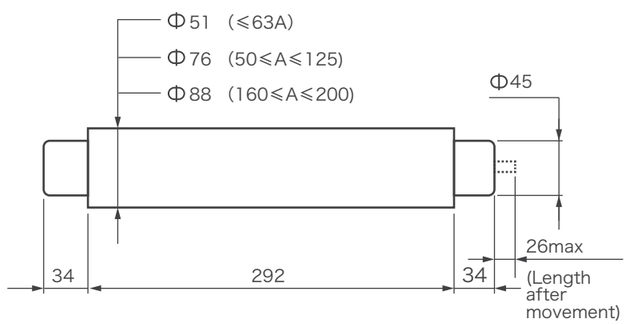
Load Switch + Fuse-combination Unit



The width of 375mm can completely replace SF6 GIS and semi-insulating cabinet

■ Its remarkable advantages are as follows:

- ☐ It can be used with TCFS and extended arbitrarily;
- ☐ It can transfer 3150A of current combined with vacuum load switch;
- ☐ Its maximum fusible core current can reach 200A with whole series of distribution transformer protection;
- ☐ It has high safety performance with dual earthing protection and reliable five-prevention interlocking.
- ☐ Its height of outlet cable can reach 550mm considering the requirement of installation.
- ☐ It uses standard fuse for users to prepare parts.



Model selection table for fuse and transformer

Primary voltage of transformer (kV)		Rated capacity of transformer (kVA)															
		25	50	75	100	125	160	200	250	315	400	500	630	800	1000	1250	1600
3	Rated current of fuse (A)	16	20	31.5	40	50	50	63	80	100	125	160					
3.3		10	20	25	40	40	40	63	80	80	125	125	160				
6		6	16	20	25	25	31.5	40	50	50	63	80	100	125	160		
10		6	10	10	16	20	25	25	31.5	40	50	50	63	80	100	125	
11		6	10	10	16	20	20	25	25	40	40	50	50	63	80	100	125

Installation instruction

Safety

Environmental Protection

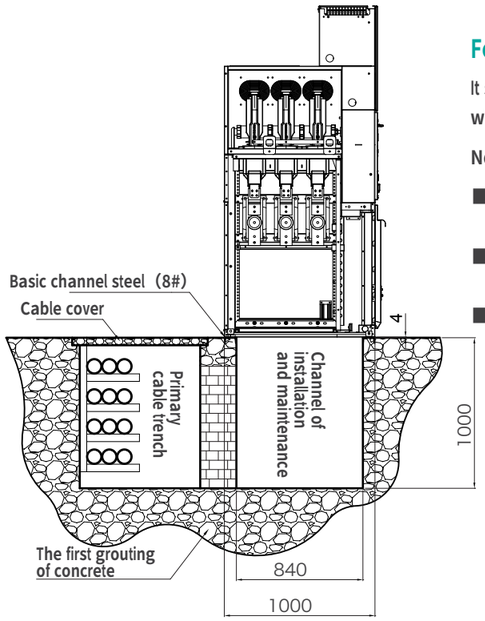
Modularization

Reliability

Universality

Miniaturization

Installation instruction



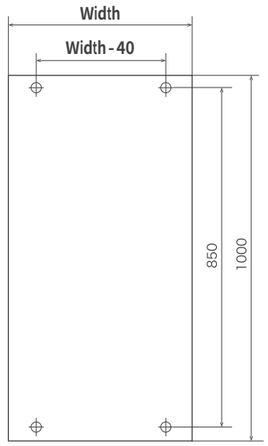
Foundation drawing

Foundation and external size

It shall be installed on embedded channel steel of concrete stylobate which can bear the gross weight of the equipment.

Note:

- The roughness of basic channel steel reverse buckle during the secondary grouting is not more than 1mm
- The switchgear is fixed on the basic channel steel and is allowed to be welded.
- The basic load of each switchgear is 500-700kg



Plan of bottom cabinet

Appearance and installation dimension of the switchgear (mm)

- The height of the switchgear is 1800mm (without separate meter cabinet)
- The height is 2200mm with separate meter cabinet
- Its standard depth is 1000mm, while it is 1400mm for up in and up out.