GW49-252 Outdoor HV Disconnect Switch

Summary

GW49-252 outdoor AC high voltage disconnect switch is used to open and close high voltage circuit in rated voltage 252kV, 50Hz power system. It accords with the standards of IEC 62271-102 and GB1985-2004: AC high voltage disconect switch and earth switch.

Ambient condition

1. Altitude: ≤2000m;
2. Ambient temperature: -40℃~+40℃;
3. Wind speed: ≤34m/s;
4. Earthquake intensity: ≤8 degree;
5. Ice coverage thickness: ≤10mm;
6. Pollution degree: I, II, III, IV;
7. Applicable occasions should free from inflammables and frequent severe vibration.

Model

G W 49 - □ D - □

- Rated current (A)
- With earth switch
- Rated voltage (kV)
- Design serial No.
- Outdoor
- Disconnect switch

Product feature

GW49-252 disconnect switch have features of compact, well sealed, less maintenance in 252kV substation, 90° between incoming and outgoing is a perfect disconnect switch. The material of connection terminal is aluminum alloy, main blade is CJ6A motor operating mechanism, earth blade is CSA manual operating mechanism.

GW16 is for vertical disconnect switch.

No.	Item		Unit	Data
1	Rated voltage		kV	252
2	Rated current		A	2000, 2500, 3150, 4000
3	Rated frequency		Hz	50
4	Rated short-time withstand current (with earth switch)		kA	40,50,63
5	Rated peak withstand current (with earth switch)		kA	100,125,160
6	Rated short-time PF, withstand voltage (1min)	across open contacts	kV	460+145
		phase to phase, to earth		460
7	Rated lightning impulse withstand voltage(1.2/50 μ s)	Across open contacts		1050+200
		phase to phase, to earth		1050
8	Rated static mechanical load for terminal	Horizontal longitudinal Ftha	N	2000
		Horizontal transverse Fthb		1500
		Vertical Ftv		1250

No.	Item			Unit	Data
9	Earth switch inductive current opening, closing	Electromagnetic coupling	Rated inductive current	A	80
			Rated inductive voltage	kV	2
		Electrostatic coupling	Rated inductive current	A	10
			Rated inductive voltage	kV	15

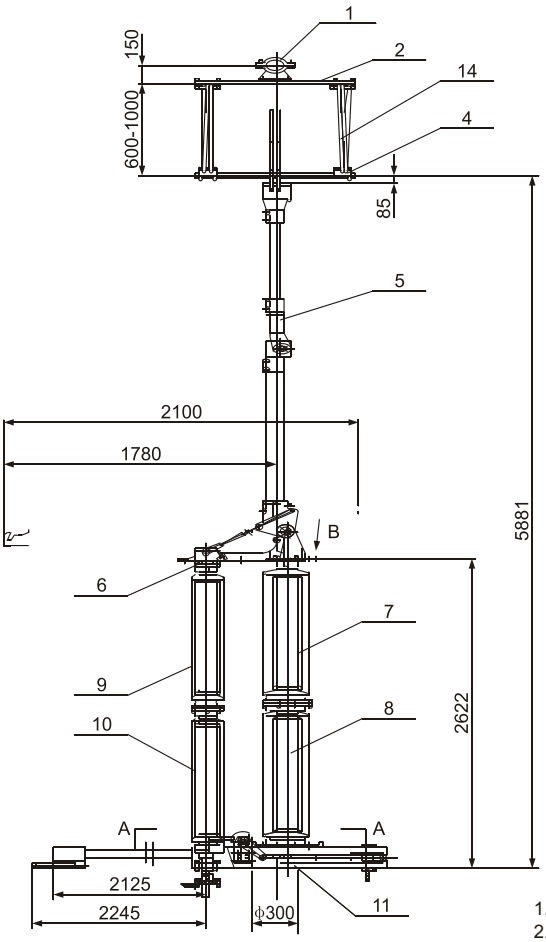
CJ6A motor operating mechanism

CJ16A motor operating mechanism mainly suitable for GW49, GW48 motor operating, It made of three phase asynchronism motor driving, output torque by the reductor.

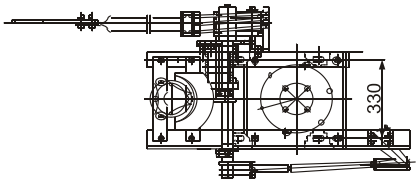
Output axes have assembly type connection of infinitely variable adjustment hoop, angle can be adjusted optionally, this can ensure closing and opening nicety. It have features of compact, large output torque, small noise and convenient maintenance.

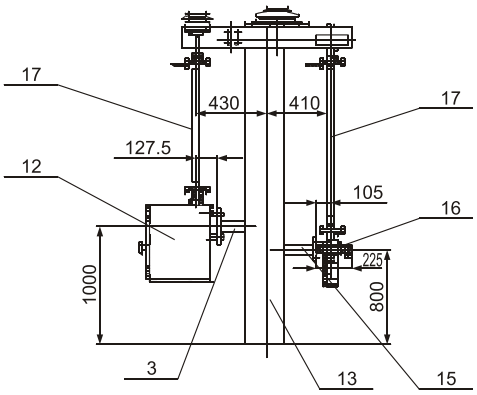
CSA manual operating mechanism

CSA manual operating mechanism adopt worm gearing, It have features of simple structure, beauty outline, easy operating, convenient maintenance. It's suitable for GW49, GW48, etc disconnect switch.

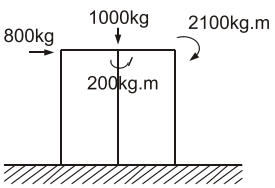


A-A(2:1)



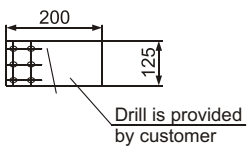


Installation requirement

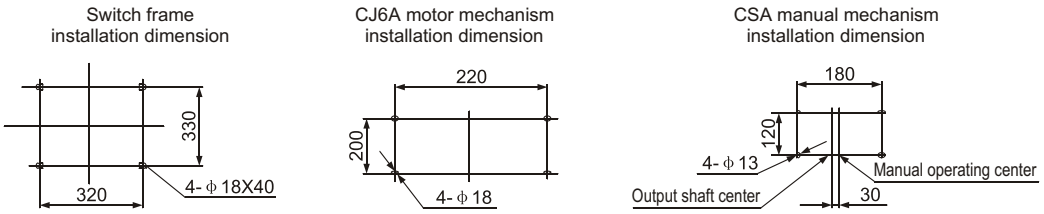


B side

Connection plate dimension



1.Busbar clamp plate installation
2.Upper clamp
3.Motor operating installation frame(supplied by user)
4.Conductor pole installation
5.Main blade 6. Rubber washer
7.Upper post insulator 8.Below post insulator
9.Upper revolving insulator 10.Below revolving insulator
11.Structure installation 12.CJ6A motor mechanism
13.Switch installation pole(supplied by user)
14.LGJ240/55 ACSR
15.Manual operating installation plate(supplied by user)
16.CSA manual operating mechanism
17.48# seamless steel tube



GW49-252 Disconnect switch of single pole installation drawing (with earth)

Operating principle

1. Main blade

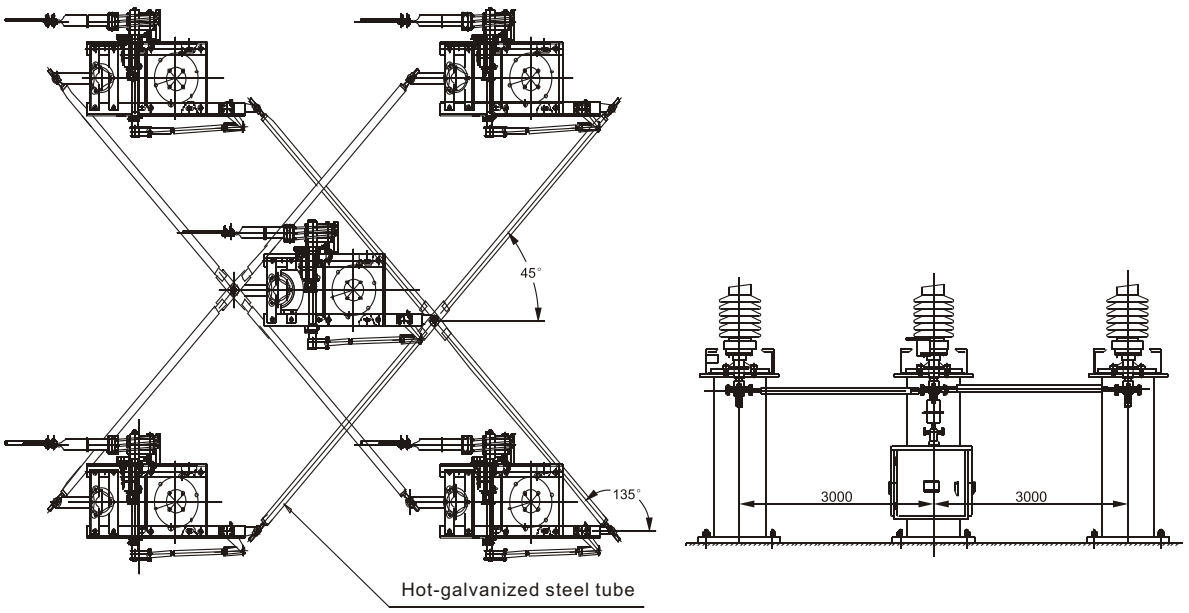
It's make up of foldaway movement and clamp movement.

Foldaway movement: CJ6A mechanism drive and rotating insulator (2) running horizontal, gear (4) drive double linkage (5) to make the conducting pipe (9) closing clockwise. Operating bar (8) which on top of adjustable linkage (6) make axial displacement, rack (11) movement drive gear (12) running to make the upper conducting pipe (15) and under conducting pipe (9) closing or opening. Otherwise, spring (10) storage and discharge according to scheduled requirement, to balance the blade torque fully.

Clamp movement: near closing position, idler wheel (13) moving along inclined surface, the pole (16) which on top of idle wheel (13) moving up, Symmetrical slide mechanism which inside the male contact holder (18) change moving operating of top pole (16) to clamp movement of the contact finger (20). idle wheel (13) moving up 3-5mm then closing completely after the female contact (19) bar was clamped, the function force of clamped sping is on the top pole now, then the top pole can get a steady force so that the contact finger (20) can make a clamped force with female contact bar. During opening operating, idle wheel (13) moving outward along inclined surface until away from there, top pole drive contact finger opening as 'V' type.

2 earth blade

There are motor and manual two types, the thermal steady current is same with main blade, mechanical and electric interlock can be achieved by the earth and main blade.



GW49-252 Disconnect switch of three pole installation drawing