



SF₆ Circuit Breaker (up to 252kV)

Disconnector (up to 252kV)

Earthing Switch (up to 252kV)

2014/2015

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Disconnector (up to 252kV)
Earthing Switch (up to 252kV)

Brief Introduction

About CHINT Electric

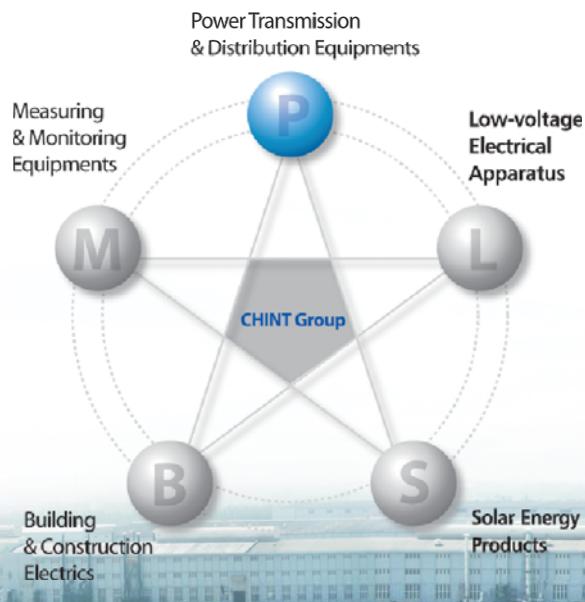
CHINT Electric is a subsidiary of CHINT Group Corporation. With an investment of 450 million USD, CHINT Electric possesses 4300 employees and 5 manufacturing business units with manufactory area of 900,000m² located in Shanghai, which is one of the world's largest power transmission & distribution equipments manufactory centers.

New Orders

Around 725 million USD in the year of 2012

Employee

4,300 employees





Product Range

- Power Transformer up to 750kV
- Distribution Transformer up to 35kV
- Dry-type Transformer up to 35kV
- Reactor up to 220kV
- GIS up to 252kV
- HV Circuit Breaker & Disconnector up to 252kV
- VCB 12~40.5kV
- MV & LV Switchgear Panel, Prifabricated Substation up to 40.5kV
- LV Terminal Box, Bus Bar Duct
- Surge Arrester & Insulator up to 500kV, CT & PT up to 220kV
- Power Distribution Automation System
- Cable up to 36kV
- Capacitor
- Turn-key Solution

About CHINT Group

- CHINT is the leading player in the Power Transmission & Distribution industry and Low-voltage electrics industry in China. Founded in 1984 by a few local entrepreneurs and currently hiring 29,000 employees worldwide.
(National Employment Advanced Corporate (China State Council, 2012))
- Ranked in The 2011 BCG 100 New Global Challengers
(The Boston Consulting Group, 2011)
- CHINT Low-voltage Electrics launched IPO at the Shanghai Stock Exchange of China (2010)
- No.2 in China Electricity Industry's Top 10 Most Competitive Enterprises (China Machinery Industry Information Institute, 2009)
- No.3 in China Electricity Industry(China Machinery Industry Information Institute, 2009)
- No.240 in Top 500 Chinese-Companies (China Enterprise Federation, 2009)
- No.1 in Power T&D and the controlling devices (China Machinery Summit, 2009)
- Ranked in Top 100 Best Employers in China (China Entrepreneurs Summit, 2008)
- No.15 in Top 100 Private & Public Companies in China (Forbes, 2006)
- National Quality Management Award(2004) (One of top honours for manufacturing companies in China)
- Worldwide business operation with 2,000 sales offices, agents, distributors, and local partners in domestic Chinese market and distributors & local partners in over 105 countries. International branches or regional offices set up in USA, UAE, Germany, Russia, Brazil, Ukraine, Hong Kong of China, UK and Nigeria.
- CHINT stretches its business to a new frontier of solar energy by setting up a branch company specialized in the solar energy products development.
- The R&D center of CHINT is recognized as the National Level R&D Center run by the companies, which means the R&D level of CHINT Group has reached the leading position in the industry of China.

Sales References

With a worldwide presence in over 125 countries such as, Italy, Germany, Estonia, USA, Russia, Japan, Australia, Saudi Arabia, Poland, Ukraine, Mongolia, Kazakhstan, Pakistan, Myanmar, Indonesia, Thailand, Egypt, Yemen, Algeria, Morocco, Congo, Tanzania, Mali, Zambia, Kenya, South Africa, Ghana, Nigeria, Colombia, etc, CHINT Electric provides reliable and high-qualified products and solutions to clients engaged in different businesses.



Utility User

Application: cooperation with National Electricity Companies in over 50 countries for power generation, transmission and distribution.

Europe

- **EAC-Cyprus**
Products: Cable.
- **Eesti Energia-Estonia**
Products: Power transformer.
- **EMS-Serbia**
Products: Power transformer.
- **ENEL-Italy**
Products: Distribution transformer, cable.
- **Fingrid-Finland**
Products: Distribution transformer.
- **HS ORKA HF-Iceland**
Products: Power transformer.
- **PPC-Greece**
Products: Power transformer, cable.
- **NEC-Bulgaria**
Products: VCB.

Latin America

- **BPC-Bhutan**
Products: Surge arrester.
- **CELEC S.P.-Ecuador**
Products: Power transformer.
- **CNEL-Ecuador**
Products: Power transformer.
- **ELCOSA-Honduras**
Products: Power transformer.
- **Enersis-Chile**
Products: Power transformer, surge arrester, insulator, SF₆ circuit breaker.
- **ENDESA-Chile**
Products: Power transformer, surge arrester, insulator, SF₆ circuit breaker.
- **ICE-Costa Rica**
Products: Power transformer.
- **PREPA-Puerto Rico**
Products: Surge Arrester.

Asia-pacific

- **EVN-Vietnam**
Products: Switch disconnector, power transformer, etc.
- **Kamoki-Pakistan**
Products: Substation turn-key project.
- **MEPE-Myanmar**
Products: Reactor, Power transformer.
- **NEA-Nepal**
Products: Substation turn-key project.
- **NTDC-Pakistan**
Products: Substation turn-key project.
- **QESCO-Pakistan**
Products: Surge arrester.
- **TEPCO-Japan**
Products: Power transformer, circuit breaker, disconnector and CT&PT.

Africa

- **EEPCO-Ethiopia**
Products: HV Circuit breaker, disconnector, earthing switch, surge arrester, insulator, CT.
- **ENE-Angola**
Products: GIS.
- **JIRAMA-Madagascar**
Products: Reactor.
- **KENGEN-Kenya**
Products: Surge arrester.
- **KPLC-Kenya**
Products: Cut-out fuse, surge arrester, insulator.
- **PHCN-Nigeria**
Products: Transformer protection & control panel.
- **RECO-Rwanda**
Products: Distribution transformer, etc.
- **REGIDESO-Burundi**
Products: Power transformer, distribution transformer.
- **SBEE-Benin**
Products: Power transformer.
- **SNEL-D.R. Congo**
Products: Power transformer.
- **SONABEL-Burkina Faso**
Products: Power transformer, reactor.
- **TANESCO-Tanzania**
Products: Substation turn-key project.
- **VRA-Ghana**
Products: MV switchgear, DC panel, disconnector.
- **ZESCO-Zambia**
Products: CT-VT metering unit.

Middle-east

- **NEC-Sudan**
Products: Power transformer.
- **NEPCO-Jordan**
Products: Power transformer, earthing transformer.
- **ONEC-Oman**
Products: Power transformer.
- **PEC-Yemen**
Products: Substation turn-key project.
- **PEDEEE-Syria**
Products: Insulator, surge arrester, substation turn-key project.
- **PEEGT-Syria**
Products: Insulator.
- **TEIAS-Turkey**
Products: Surge arrester, insulator.
- **WARD-Lebanon**
Products: SF₆ circuit breaker, disconnector, surge arrester, insulator.

CIS

- **ENA-Armenia**
Products: HV circuit breaker, switch disconnector, etc.

[More >>>](#)

Global Operation in Over 125 Countries

Industrial End User

Application: widely applicable for mining, iron-steel, cement, metallurgy, chemical, railway, petroleum, paper, power generation industries, etc.

Mining Industry

- BHP Billiton-Australia
Products: CT& PT, distribution transformer, etc.
- Rio Tinto-Australia
Products: Distribution transformer, CT.
- FMG-Australia
Products: Power transformer.

Iron-steel Industry

- JFE Steel-Japan
Products: Disconnector.
- Bao Steel-China
Products: Power transformer, MV switchgear panel.

Cement Industry

- Serebryabkiy Cement Plant-Russia
Products: HV capacity compensation device, HV capacitor.
- Viet Quang Cement Plant-Vietnam
Products: Power transformer, HV circuit breaker, disconnector, MV&LV switchgear panel.

Petroleum & Gas Industry

- Chevron-USA
Products: Switchgear panel, distribution transformer.
- PDVSA-Venezuela
Products: Power transformer, distribution transformer.
- CNPC-China
Products: Power transformer, GIS, MV switchgear panel.

Power Rental Industry

- Aggreko-UK
Products: Power transformer.
- APR Energy-USA
Products: Power transformer, HV circuit breaker, disconnector, CT, PT.

Paper Industry

- VISY-Australia
Products: Switchgear panel
- UPM-Finland
Products: MV switchgear panel.

Chemical Industry

- Saint Gobain-France
Products: Power transformer, MV switchgear panel, cable, busduct.
- INVISTA-USA
Products: Distribution transformer, switchgear panel, DC panel.

Power Generation

- TATA Power-India
Products: Power transformer.
- SIBAYAK Geothermal Power Plant-Indonesia
Products: MV&LV switchgear panel, surge arrester, insulator, CT, VCB.

Commercial & Civil Construction

- Shangri-la Hotel-Philippine
Products: Distribution transformer.
- Kiev Boryspil International Airport-Ukraine
Products: GIS.

Shipbuilding Industry

- Fincantieri-Italy
Products: Power transformer.

[More >>>](#)

Engineering & Contracting

- EIFFAGE-France
Products: Power transformer, reactor.
- FLUOR-USA
Products: Power transformer.

[More >>>](#)

Turn-key Project

- Kamoki-Pakistan
Projects: 230kV substation EPC.
- Saint Gobain-France
Projects: 35kV substation EPC.
- PEC-Yemen
Projects: 132kV and 33kV substation EPC.
- NEA-Nepal
Projects: 132kV and 33kV substation EPC.
- SMCO-D.R. Congo
Projects: 220kV substation EPC.
- TANESCO-Tanzania
Projects: 35kV and 66kV substation EPC.
- NTDC-Pakistan
Projects: 220kV substation EPC.

[More >>>](#)



Sales References

SF6 Circuit Breaker, Disconnector, Earthing Switch

CHINT Electric HV Switches are widely adopted by Utility Users from Armenia, Chile, Lebanon, Ethiopia, Tanzania, Ghana, Vietnam, Myanmar, Pakistan, Yemen, etc.; Industrial End Users from France, Australia, Kenya, Japan, Vietnam, etc. like JFE Steel and Engineering Companies from Lebanon, USA, Ghana, Vietnam, Bangladesh, Mongolia, etc.



Utility User

- Electric Networks of Armenia (ENA)- Armenia
- Enersis-Chile
- Electricity of Vietnam (EVN)-Vietnam
- Volta River Authority (VRA)-Ghana
- Public Electricity Corporation (PEC)-Yemen
- Water Resources Utilization Department (WARD)-Lebanon
- Ethiopian Electric Power Corporation (EEPCO)-Ethiopia
- Kamoki-Pakistan
- Tokyo Electric Power Company (TEPCO)-Japan
- Cement Plant-Vietnam
- Tanzania Electric Supply Company (TANESCO)-Tanzania
- Myanma Electric Power Enterprise (MEPE)-Myanmar
- Water Resources Utilization Department (WRUD)-Myanmar

Industrial End User

- Saint Gobain-France
- Fortescue Metals Group (FMG)-Australia

Engineering & Contracting

- EIFFAGE-France

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※ Note: Contact us for more detailed sales references.

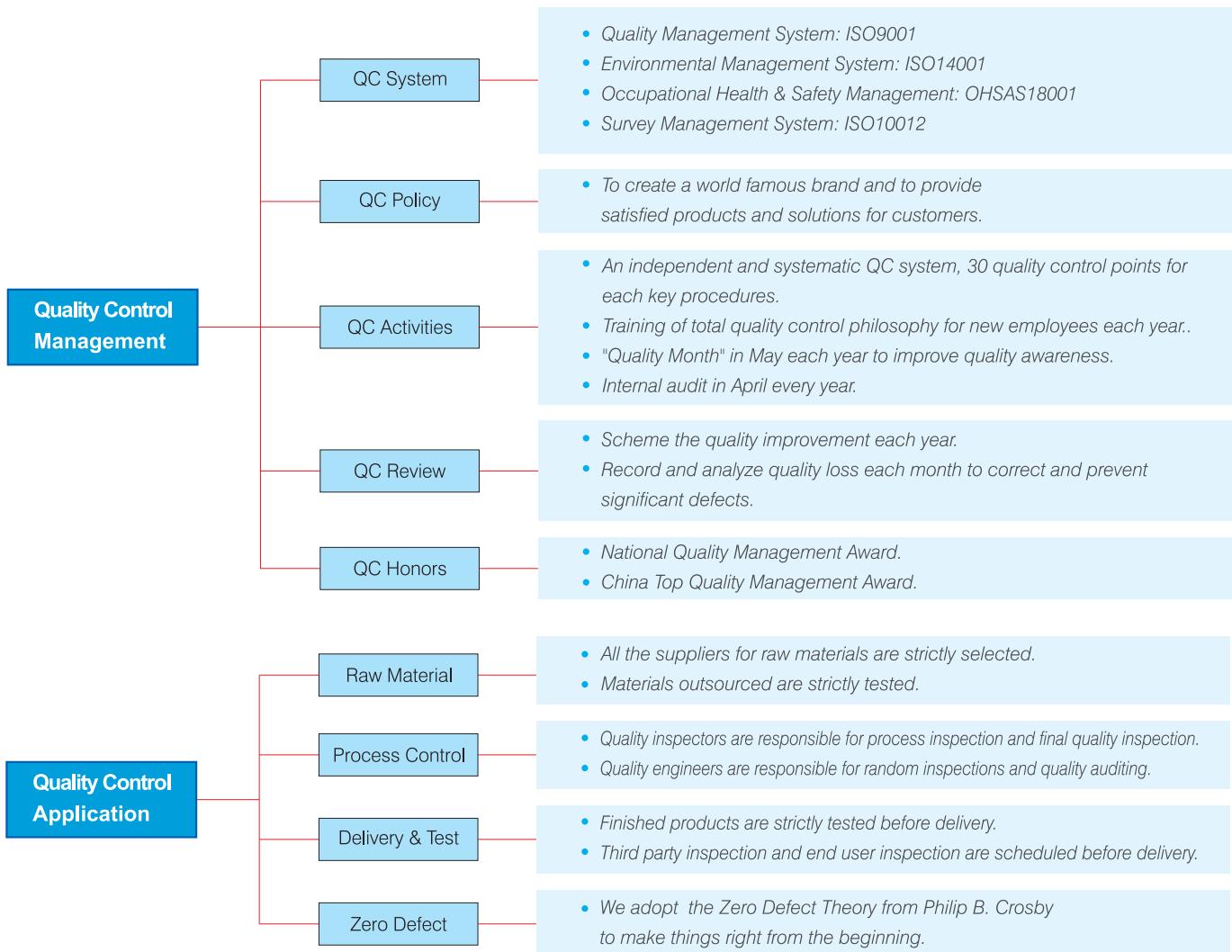


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Quality Management

Quality Management



QC System Certificate



※ Note: Similar to America Baldrige Criteria.

Quality Management / Certification

Quality Management Procedure



Total assembly



252kV Disconnector under assembly



40.5kV SF₆ circuit breaker under commissioning



- 1 Spare part assembly of SF₆ circuit breaker
- 2 275kV Power frequency withstand voltage testing transformer



Certification

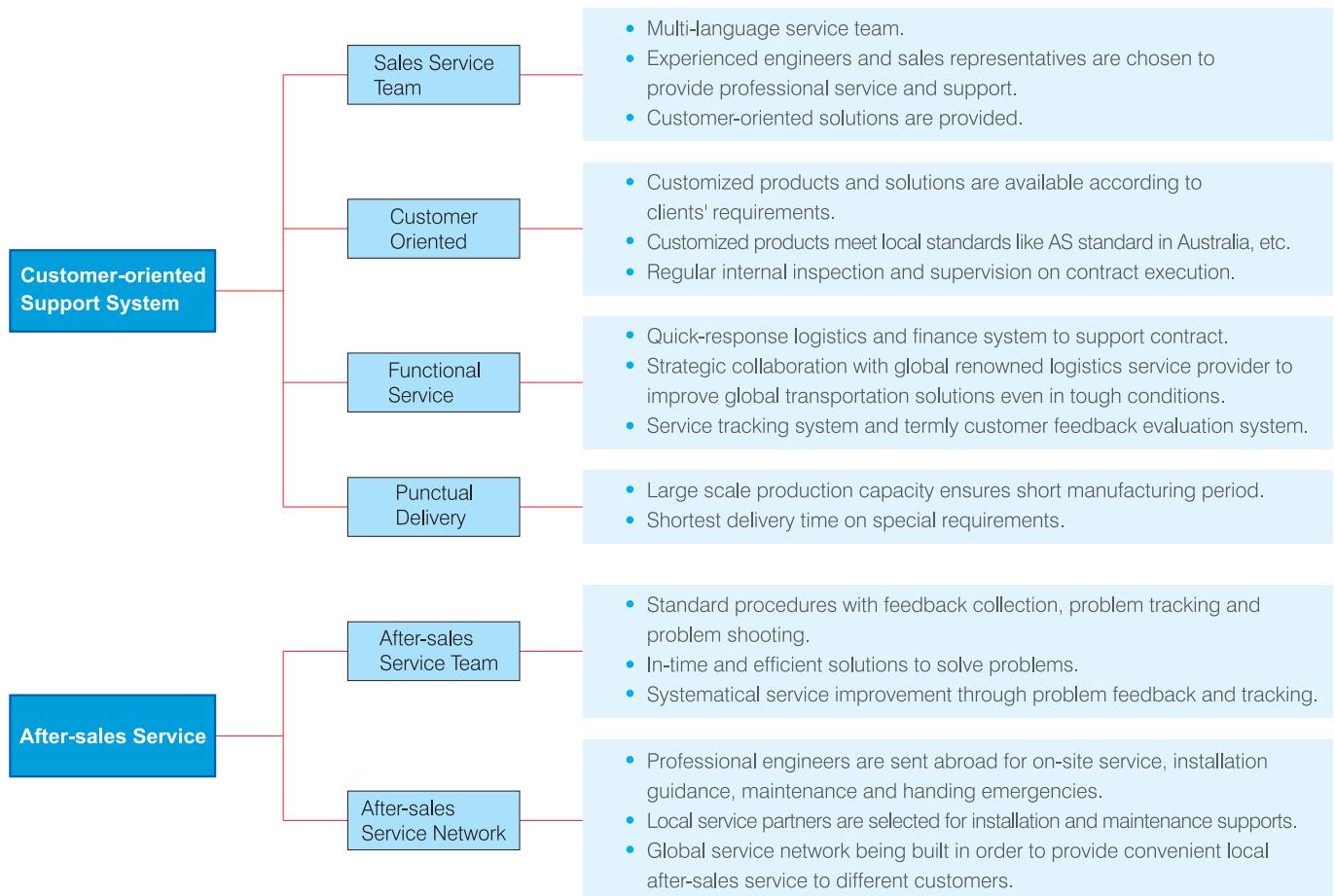
CHINT T&D's products are evaluated by STL (Short-Circuit Testing Liaison) laboratories such as KEMA, CESI, and other international certification like PCT (GOST), TUV; and tested by CNAS (ilac member in China) laboratories such as CTQC, SEPTDTC, etc.



Sales Service

Sales Service

Professional & Fast customer support system set up to ensure customer satisfaction:



- 1 Installation of disconnector in Armenia
- 2 Installation training for local workers
- 3 Installation of SF6 circuit breaker in Botswana

SF6 Circuit Breaker



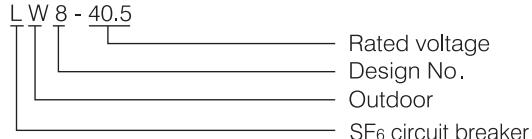
LW8-40.5 SF6 Circuit Breaker (Dead Tank) (40.5kV)

1 General

1.1 Application: three-phase AC 50Hz outdoor HV electrical apparatus with CT14 spring operating mechanism, for control and protection of 35kV transmission and distribution system as well as communicating with circuit breaker and open/close capacitor group.

1.2 Standard: IEC 62271-100.

2 Type Designation



3 Working Condition

3.1 Sunlight: 1000W/m²

3.2 Relative humidity: Daily average value is $\leq 95\%$
Monthly average value is $\leq 90\%$

3.3 Max wind velocity: 34m/s

3.4 Seismic: Horizontal acceleration: 0.250g
Vertical acceleration: 0.125g

3.5 Pollution level: III (25 mm/kV)

3.6 Thickness of ice covering: 10 mm

3.7 Protection degree: IP5XW

※ Note: Customized products are available.

4 Technical Parameter

4.1 Main Technical Parameter of Circuit Breaker

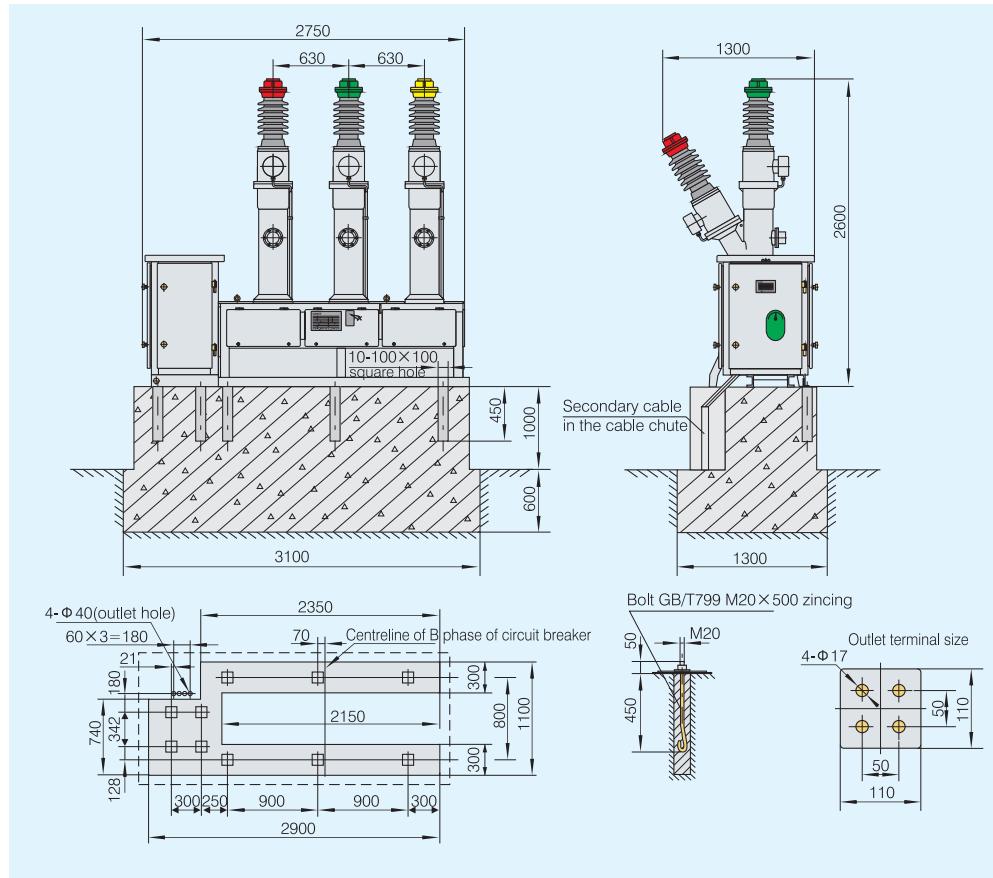
Item	Unit	Parameter			
Altitude	m	1000		2000	
Ambient air temperature	—	-30°C~40°C	-40°C~40°C	-30°C~40°C	-40°C~40°C
Rated voltage	kV	40.5		40.5	
Rated frequency	Hz	50		50	
Rated current	A	2000		2000	
Rated short-circuit breaking current for Isc	kA	31.5	25	31.5	25
Rated short-time withstand current/continuous time	kA/s	31.5/4	25/4	31.5/4	25/4
Rated peak withstand current (peak)	kA	80	63	80	63
Rated short-circuit making current (peak)	kA	80	63	80	63
First-pole-to clear factor	—	1.5		1.5	
Rated out-of-phase breaking current	kA	Isc×25%		Isc×25%	
Power frequency withstand voltage for 1min	Open contacts	kV	95+24	95	95
	To earth		95	95	95
Lightning impulse withstand voltage (peak)	Open contacts	kV	185+33	185	185
	To earth		185	185	185
Rated operating sequence	—	O-0.3s-CO-3min-CO			

4.2 Installation and Adjusting Parameters of Circuit Breaker

Item	Unit	Parameter
Moving contact travel	mm	95±2
Contact open distance	mm	60±1.5
Closing synchronization	ms	≤ 3
Opening synchronization	ms	≤ 2
Main circuit resistance	$\mu \Omega$	≤ 120
Rigid closing speed	m/s	3.2±0.2
Rigid opening speed	m/s	3.4±0.2

SF6 Circuit Breaker

5 Outline and Installation Dimension (Unit: mm)



6 Ordering Information

Please specify the following items when ordering:

- 6.1 Model.
- 6.2 Rated electric parameters.
- 6.3 Service environment conditions.
- 6.4 Voltage of control supply.
- 6.5 Quantity, ratio, capacity, and accuracy of current transformers.
- 6.6 The quantity of necessary spare parts, accessories, special tools and equipments.

※ Note: Customized products are available.

SF6 Circuit Breaker



LW8A-40.5 SF6 Circuit Breaker (Live Tank) (40.5kV)

1 General

1.1 Application: three-phase AC 50Hz outdoor HV electrical apparatus with CT14 spring operating mechanism, for control and protection of 40.5kV power system as well as communicating with circuit breaker. Current transformer inside as well for measuring and protection.

1.2 Standard: IEC 62271-100.

2 Type Designation



3 Working Condition

3.1 Sunlight: 1000W/m²

3.2 Relative humidity: Daily average value is $\leq 95\%$
Monthly average value is $\leq 90\%$

3.3 Max wind velocity: 34m/s

3.4 Seismic: Horizontal acceleration: 0.250g
Vertical acceleration: 0.125g

3.5 Pollution level: III (25mm/kV)

3.6 Thickness of ice covering: 10mm (when wind speed $\leq 15\text{m/s}$)

3.7 Protection degree: IP5XW

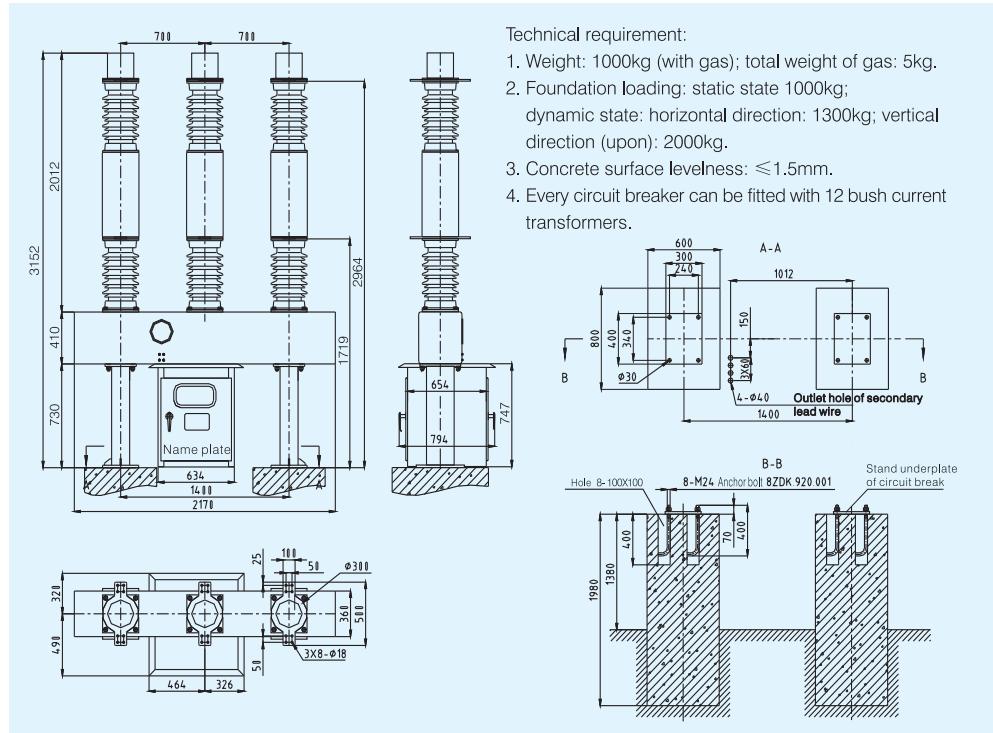
※ Note: Customized products are available.

4 Technical Parameter

Item	Unit	Parameter			
Altitude	m	1000		2000	
Ambient air temperature	—	-30°C~40°C	-40°C~40°C	-30°C~40°C	-40°C~40°C
Rated voltage	kV	40.5		40.5	
Rated frequency	Hz	50		50	
Rated current	A	2000		2000	
Rated short-circuit breaking current for Isc	kA	31.5	25	31.5	25
Rated short-time withstand current/continuous time	kA/s	31.5/4	25/4	31.5/4	25/4
Rated peak withstand current (peak)	kA	80	63	80	63
Rated short-circuit making current (peak)	kA	80	63	80	63
First-pole-to clear factor	—	1.5		1.5	
Rated out-of-phase breaking current	kA	Isc×25%		Isc×25%	
Power frequency withstand voltage for 1min	<u>Open contacts</u> To earth	kV	95+24	95	95
			95	95	95
Lightning impulse withstand voltage (peak)	<u>Open contacts</u> To earth	kV	185+33	185	185
			185	185	185
Rated operating sequence	—	O-0.3s-CO-3min-CO			

SF6 Circuit Breaker

5 Outline and Installation Dimension (Unit: mm)



6 Ordering Information

Please specify the following items when ordering:

- 6.1 Model.
- 6.2 Rated electric parameters.
- 6.3 Service environment conditions.
- 6.4 Voltage of control supply.
- 6.5 Quantity, ratio, capacity and accuracy of current transformers.
- 6.6 The quantity of necessary spare parts, accessories, special tools and equipments.

※ Note: Customized products are available.



SF6 Circuit Breaker



LW36-126 SF6 Circuit Breaker (126kV)

1 General

1.1 Application: three-pole AC 50Hz outdoor HV electrical apparatus, for control and protection of 110kV power system as well as communicating with circuit breaker.

1.2 Standard: IEC 62271-100.

2 Type Designation



3 Working Condition

3.1 Daily temperature variation: $\leq 25^{\circ}\text{C}$

3.2 Sunshine: 0.1 W/cm²

3.3 Relative humidity: Daily average value $\leq 95\%$

Monthly average value $\leq 90\%$

3.4 Wind velocity: 34 m/s

3.5 Seismic: Horizontal acceleration is 0.250g

Vertical acceleration is 0.125g

3.6 Pollution level: III (25mm/kV), IV (31mm/kV)

3.7 Thickness of ice covering: 10 mm (the wind velocity $\leq 15\text{m/s}$)

3.8 Protection degree: IP5XW

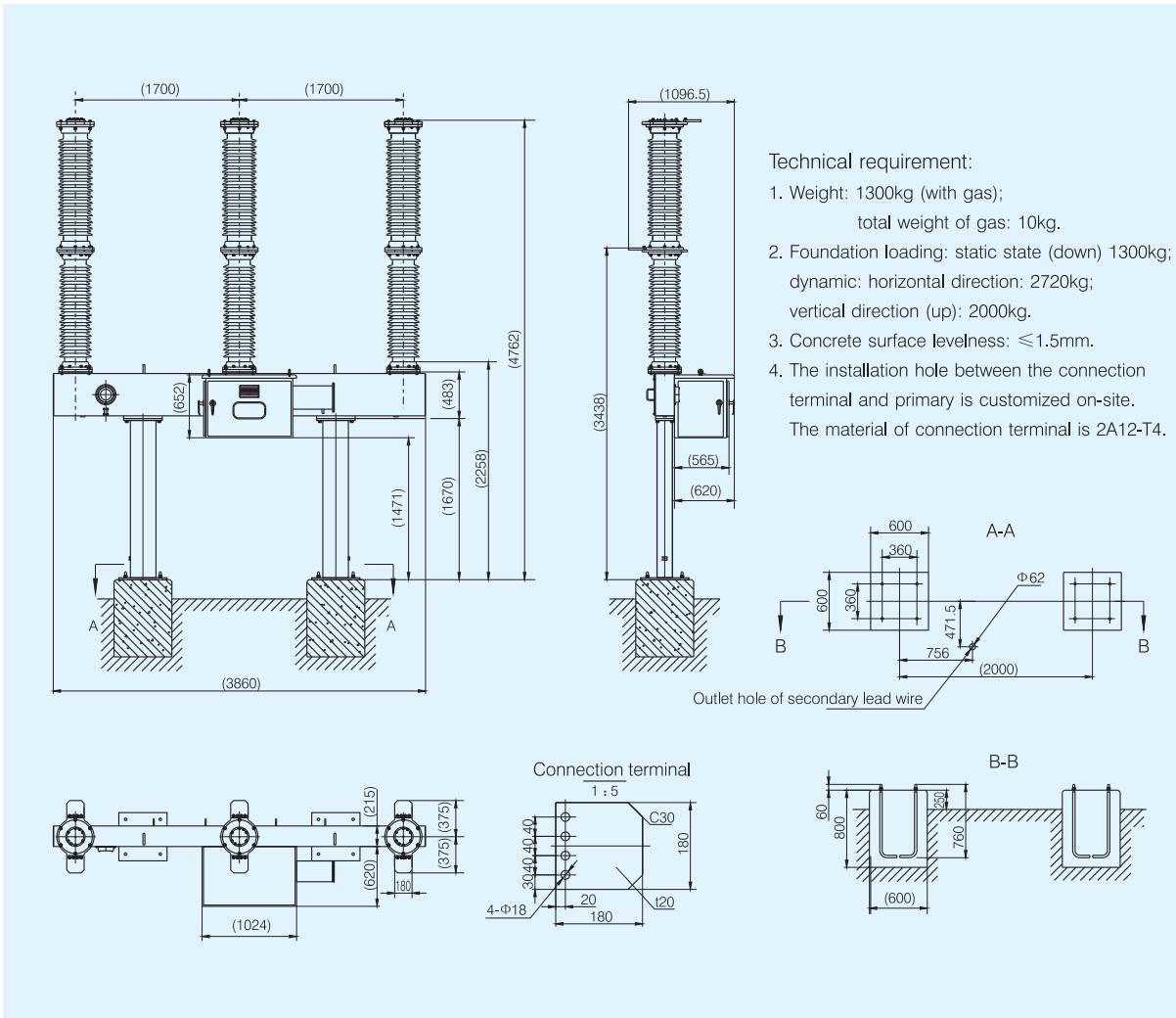
※ Note: Customized products are available.

4 Technical Parameter

Item	Unit	Parameter			
Altitude	m	1000		2000	
Ambient air temperature	—	-30°C~40°C	-40°C~40°C	-30°C~40°C	-40°C~40°C
Rated voltage	kV		126		
Rated frequency	Hz		50		
Rated current	A		3150		
Rated short-circuit breaking current for Isc	kA	40	31.5	40	31.5
Rated short-circuit making current (peak)	kA	100	80	100	80
Rated short-time withstand current/continuous time	kA	40	31.5	40	31.5
Rated short-time withstand continuous time	s	4	4	4	4
Rated peak withstand current (peak)	kA	100	80	100	80
Short-line fault breaking current	kA			Isc×90%, Isc×75%	
Rated out-of-phase breaking current	kA			Isc×25%	
First-pole-to clear factor	—			1.5	
Rated line charging open/close current	A		31.5		
Rated out-of-phase earthing interrupting current	A			Isc×87%	
Power frequency withstand voltage for 1min	Open contacts Between poles / to earth	kV	230+73 230	230 210	210
Lightning impulse withstand voltage (peak)	Open contacts Between poles / to earth	kV	550+103 550	550 450	450
Rated operating sequence	—			O-0.3s-CO-3min-CO	

SF6 Circuit Breaker

5 Outline and Installation Dimension (Unit:mm)



6 Ordering Information

Please specify the following items when ordering:

- 6.1 Model.
- 6.2 Rated electric parameters(voltage, current).
- 6.3 Service environment conditions.
- 6.4 Voltage of control supply.
- 6.5 Wiring direction of primary terminal.
- 6.6 The quantity of necessary spare parts, accessories, special tools and equipments.

※ Note: Customized products are available.

SF6 Circuit Breaker



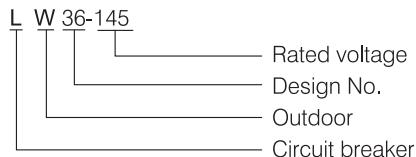
LW36-145 SF6 Circuit Breaker (145kV)

1 General

1.1 Application: three-phase AC 50Hz outdoor/indoor HV electrical apparatus, for control and protection of 132kV power system as well as communicating with circuit breaker.

1.2 Standard: IEC 62271-100.

2 Type Designation



3 Working Condition

3.1 Altitude: $\leq 1000\text{m}$

3.2 Ambient air temperature: $-30^\circ\text{C} \sim +40^\circ\text{C}$

3.3 Daily temperature variation: $\leq 25^\circ\text{C}$

3.4 Sunshine: 0.1 W/cm^2

3.5 Relative humidity: Daily average value $\leq 95\%$

Monthly average value $\leq 90\%$

3.6 Max wind velocity: 34m/s

3.7 Seismic: Horizontal acceleration is 0.250g

Vertical acceleration is 0.125g

3.8 Pollution level: III (25mm/kV), IV (31mm/kV)

3.9 Thickness of ice covering: 10 mm (the wind velocity $\leq 15\text{m/s}$)

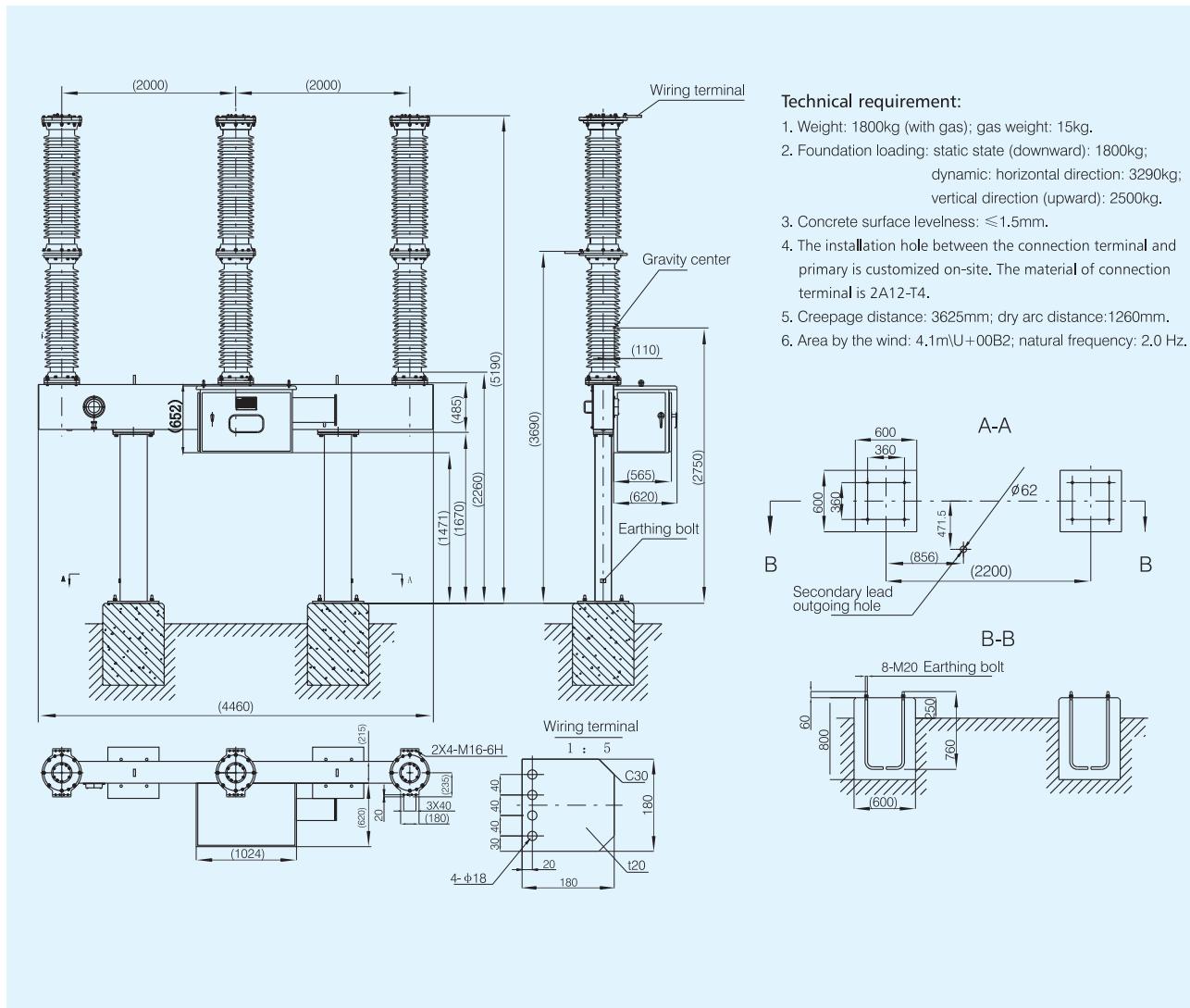
※ Note: Customized products are available.

4 Technical Parameter

Item	Unit	Parameter			
Altitude	m	1000		2000	
Ambient air temperature	—	$-30^\circ\text{C} \sim 40^\circ\text{C}$	$-40^\circ\text{C} \sim 40^\circ\text{C}$	$-30^\circ\text{C} \sim 40^\circ\text{C}$	$-40^\circ\text{C} \sim 40^\circ\text{C}$
Rated voltage	kV			145	
Rated frequency	Hz	50		60	
Rated current	A		3150		
Rated short-circuit breaking current I_{sc}	ka	40	31.5	31.5	25
Rated short time withstand current/continuous time	ka/S	40/3	31.5/3	31.5/3	25/3
Rated withstand current (peak)	ka	100	80	80	63
Rated short-circuit making current (peak)	ka	100	80	80	63
First-pole-to clear factor	—		1.5		
Nearby area fault breaking current	ka		$I_{sc} \times 90\%$, $I_{sc} \times 75\%$		
Rated out-of-phase breaking current	ka		$I_{sc} \times 25\%$		
Power frequency withstand voltage for 1min (effective value)	Open contacts To earth	kV	275+84 275	275 275	275+84 275
Lightning impulse withstand voltage (peak)	Open contacts To earth	kV	650+119 650	650 650	650+119 650
Rated operating sequence	—		$O-0.3\text{s}-CO-3\text{min}-CO$		

SF₆ Circuit Breaker

5 Outline and Installation Dimension (Unit:mm)



6 Ordering Information

Please specify the following items when ordering:

- 6.1 Model.
- 6.2 Rated electrical parameters (voltage, current).
- 6.3 Service environment conditions.
- 6.4 Voltage of control supply and auxiliary supply.
- 6.5 The quantity of necessary spare parts, accessories, special tools and equipments.

※ Note: Customized products are available.

SF6 Circuit Breaker

LW43-252 SF6 Circuit Breaker (252kV)

1 General



1.1 Application: three-phase AC 50Hz outdoor HV electrical apparatus, for control and protection of 220kV power system as well as communicating with circuit breaker.

1.2 Standard: IEC 62271-100.

2 Type Designation



3 Working Condition

3.1 Daily temperature variation: $\leq 25^{\circ}\text{C}$

3.2 Sunshine: 0.1W/cm^2

3.3 Relative humidity: Daily average value $\leq 95\%$

Monthly average value $\leq 90\%$

3.4 Max wind velocity: 34m/s

3.5 Seismic: Horizontal acceleration: 0.250g

Vertical acceleration: 0.125g

3.6 Pollution level: III (25mm/kV), IV (31mm/kV)

3.7 Thickness of ice covering: 10 mm (the wind velocity $\leq 15\text{m/s}$)

3.8 Protection degree: IP5XW

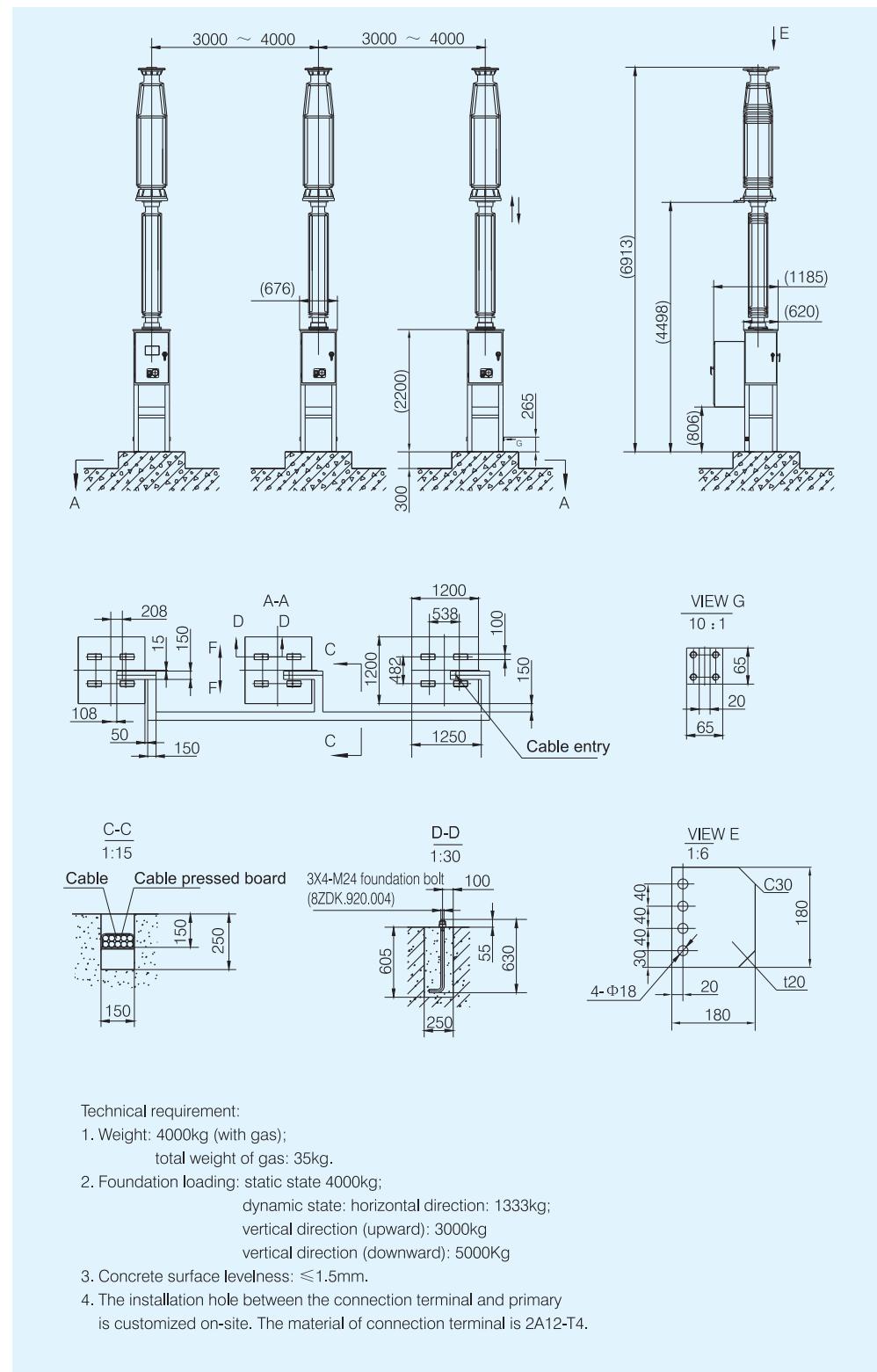
※ Note: Customized products are available.

4 Technical Parameter

Item	Unit	Parameter			
		1000	2000	1000	2000
Altitude	m				
Ambient air temperature	—	-30°C~40°C	-40°C~40°C	-30°C~40°C	-40°C~40°C
Rated voltage	kV		252		
Rated frequency	Hz		50		
Rated current	A	4000	3150	4000	3150
Rated short-circuit breaking current for Isc	kA	50	40	50	40
Rated short-circuit making current (peak)	kA	125	100	125	100
Rated short-time withstand current	kA	50	40	50	40
Rated short-time withstand continuous time	s	3	3	3	3
Rated peak withstand current (peak)	kA	125	100	125	100
Short-line fault breaking current	kA			Isc × 90%, Isc × 75%	
Rated out-of-phase breaking current	kA			Isc × 25%	
First-pole-to clear factor	—			1.5	
Rated line charging open/close current	A			160	
On-load transformer breaking current	A			0.5~20	
Power frequency withstand voltage for 1min	Open contacts	kV	460; 395+145	395	395
	To earth		460	395	395
Lightning impulse withstand voltage (peak)	Open contacts	kV	1050; 950+206	950	950
	To earth		1050	950	950
Rated operating sequence	—			O-0.3s-CO-3min-CO	

SF₆ Circuit Breaker

5 Outline and Installation Dimension (Unit:mm)



SF6 Circuit Breaker

6 Ordering Information

Please specify the following items when ordering:

6.1 Model.

6.2 Rated electric parameters(voltage, current.

6.3 Service environment conditions.

6.4 Voltage of control supply.

6.5 Wiring direction of primary terminal.

6.6 The quantity of necessary spare parts, accessories, special tools and equipments.

※ Note: Customized products are available.



SF6 Circuit Breaker

LW43A-252 SF6 Circuit Breaker (252kV)

1 General



1.1 Application: three-pole AC 50Hz outdoor HV electrical apparatus for control and protection in 220kV power system as well as communicating with circuit breaker.

1.2 Standard: IEC 62271-100.

2 Type Designation



3 Working Condition

3.1 Altitude: ≤ 1000 m; special area ≤ 3000 m

3.2 Daily temperature variation: ≤ 25 °C

3.3 Ambient air temperature: -40 °C $\sim +40$ °C

3.4 Max wind velocity: 34m/s

3.5 Seismic: Horizontal acceleration: 0.250g
Vertical acceleration: 0.125g

3.6 Thickness of ice covering: ≤ 10 mm

3.7 Relative humidity: Daily average $\leq 95\%$

Monthly average $\leq 90\%$

3.8 Pollution level: III (25mm/kV), IV (31mm/kV)

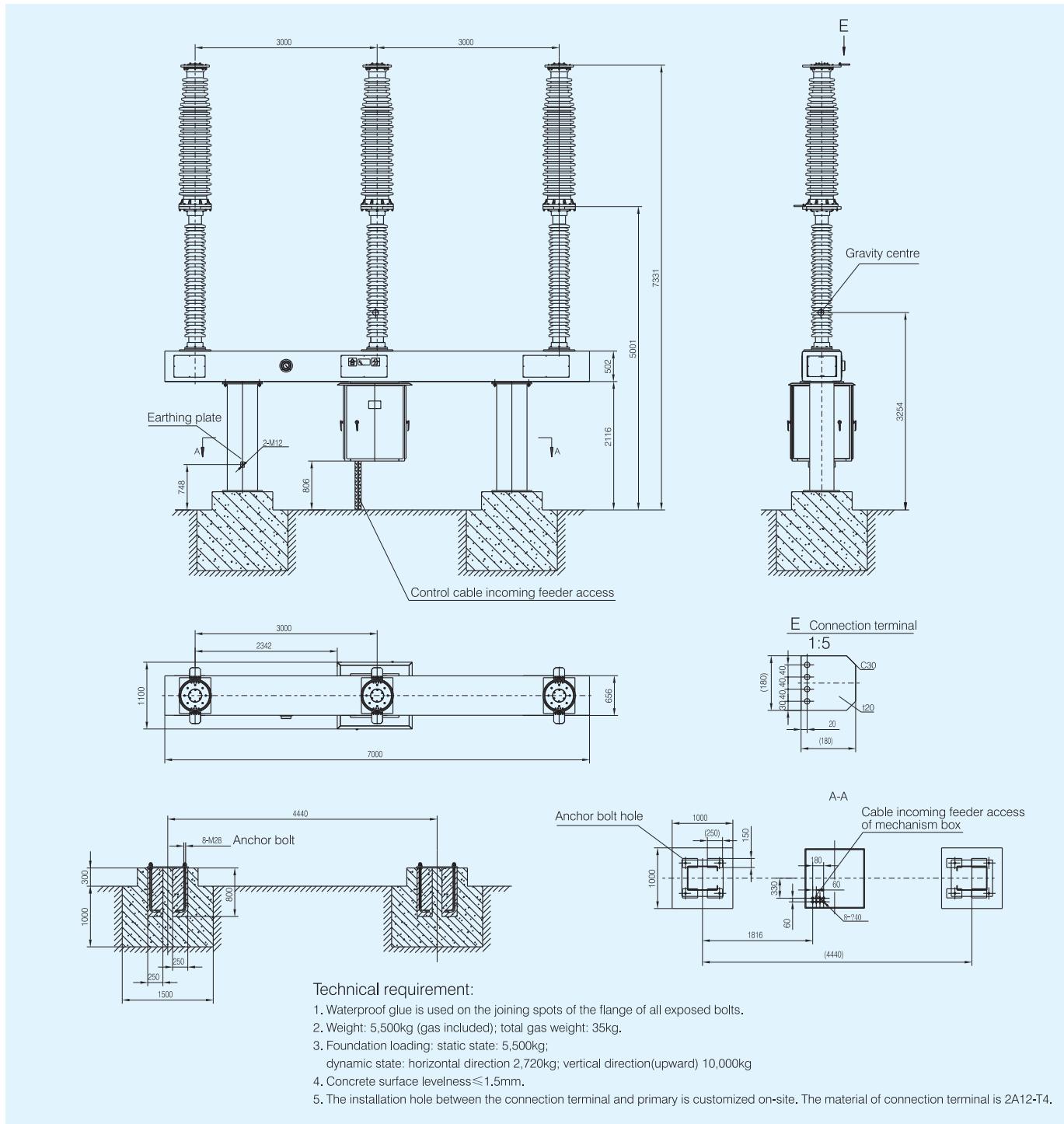
3.9 Protection degree: IP5XW

4 Technical Parameter

Item	Unit	Parameter			
Altitude	m	1000		2000	
Ambient air temperature	—	-30°C~40°C	-40°C~40°C	-30°C~40°C	-40°C~40°C
Rated voltage	kV		252		
Rated frequency	Hz		50		
Rated current	A	4000	3150	4000	3150
Rated short-circuit breaking current for Isc	kA	50	40	50	40
Rated short-circuit making current (peak)	kA	125	100	125	100
Rated short-time withstand current	kA	50	40	50	40
Rated short-time withstand continuous time	s	3	3	3	3
Rated peak withstand current (peak)	kA	125	100	125	100
Short-line fault breaking current	kA		Isc $\times 90\%$, Isc $\times 75\%$		
Rated out-of-phase breaking current	kA		Isc $\times 25\%$		
First-pole-to clear factor	—		1.5		
Rated line charging open/close current	A		160		
On-load transformer breaking current	A		0.5~20		
Power frequency withstand voltage for 1min (effective value)	Open contacts To earth	kV	460; 460+145 460	460	460
Lightning impulse withstand voltage (peak)	Open contacts To earth	kV	1050; 1050+206 1050	1050	1050
Rated operating sequence	—		O-0.3s-CO-3min-CO		

SF6 Circuit Breaker

5 Outline and Installation Dimension (Unit:mm)



6 Ordering Information

Please specify the following items when ordering:

- 6.1 Model.
- 6.2 Rated electric parameters (voltage, current)
- 6.3 Service environment conditions.
- 6.4 Voltage of control supply.
- 6.5 Wiring direction of primary terminal.
- 6.6 The quantity of necessary spare parts, accessories, special tools and equipments.

※ Note: Customized products are available.

Disconnector

GW4 Series Outdoor AC Disconnector (40.5kV/126kV/145kV/252kV)

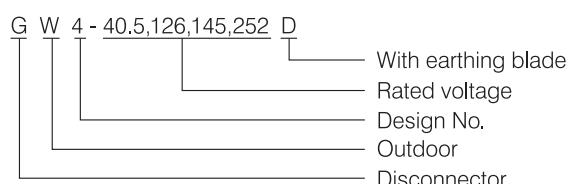


1 General

1.1 Application: three-phase AC 50Hz outdoor HV electrical apparatus, for switching under no-load condition and electrical disconnecting between electrical apparatus and live circuit in rated voltage 35~220kV power system.

1.2 Standard: IEC 62271-102.

2 Type Designation



3 Working Condition

3.1 Altitude: $\leq 2000\text{m}$

3.2 Ambient air temperature: $-40^{\circ}\text{C} \sim +40^{\circ}\text{C}$

3.3 Max wind velocity: 34m/s

3.4 Seismic: Horizontal acceleration: 0.250g
Vertical acceleration: 0.125g

3.5 Thickness of ice covering: $\leq 10\text{mm}$

3.6 Pollution level of insulator: III (25mm/kV), IV (31mm/kV)

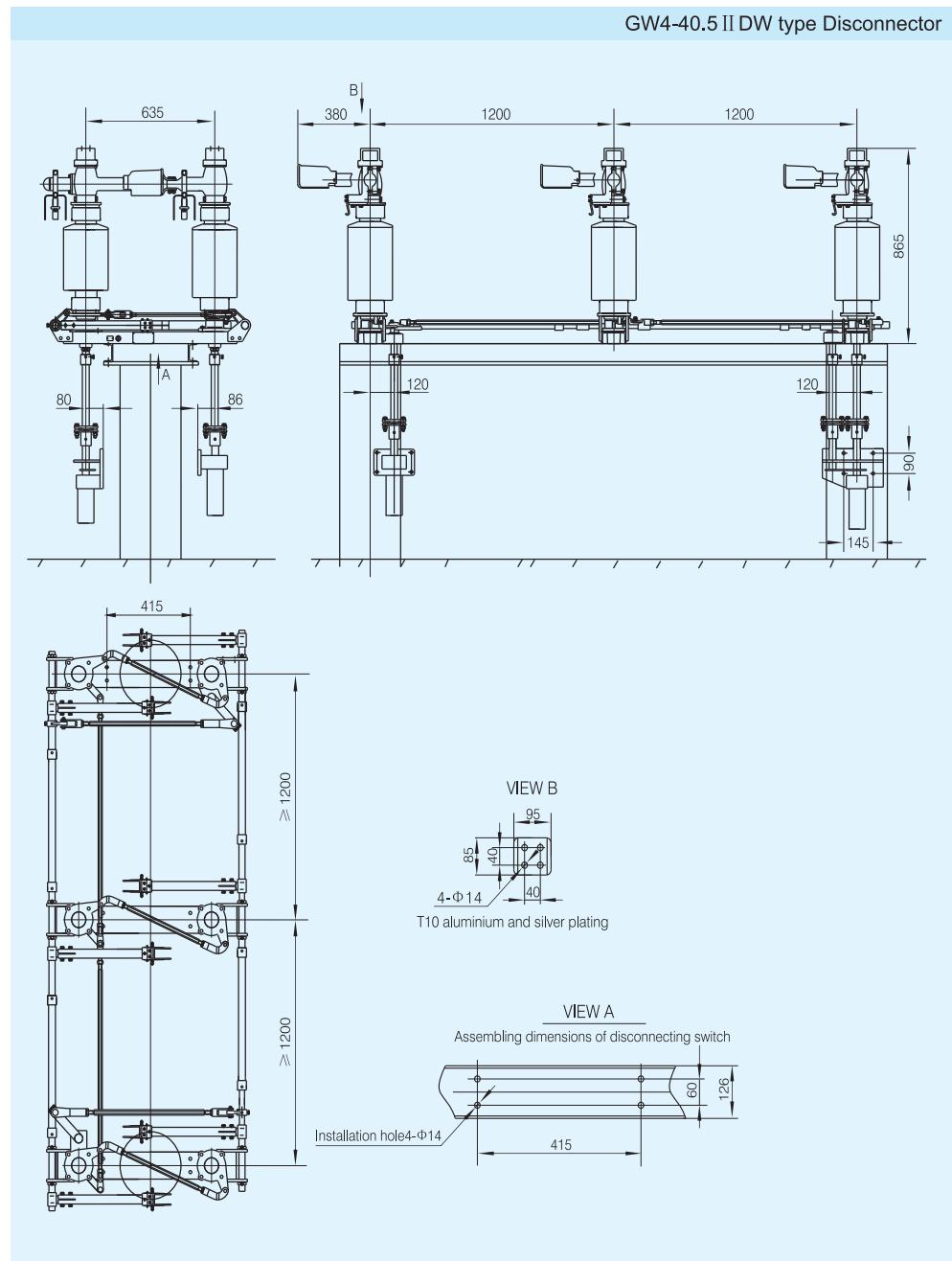
3.7 Installation area without fire, explosion, chemical corrosion and frequent shocking

4 Technical Parameter

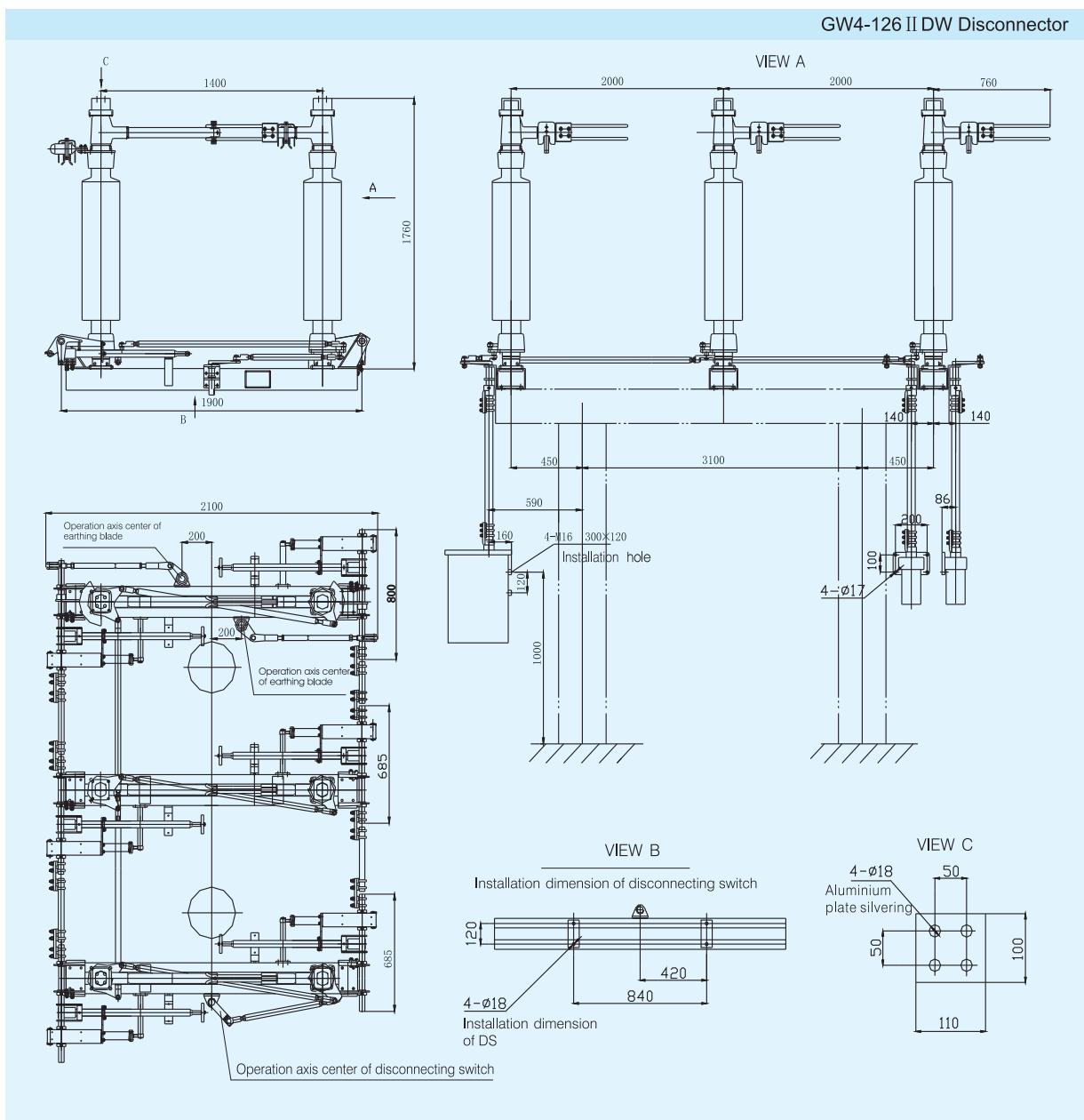
Item		Unit	Parameter			
Rated voltage		kV	40.5	126	145	252
Rated current		A	2000	2000	2000	3150
Rated short time withstand current, 3s		kA	40	40	40	50
Rated peak withstand current		kA	80	100	100	125
Rated power frequency withstand voltage (rms)	To earth	kV	95	230	275	460
	Open contacts	kV	110	230+70	315	460+145
Rated lightning impulse withstand voltage (peak)	To earth	kV	185	550	650	1050
	Open contacts	kV	215	550+100	750	1050+200
Rated tension of connecting terminal	Longitudinal		750	1000	1000	1500
	Horizontal	N	400	750	750	1000
	Vertical		500	1000	1000	1250
Min failing load		N	4000	6000	6000	8000
ES induction current	Electromagnetic coupling	Rated induction current	A	—	50	80
switching capability	Electrostatic coupling	Rated induction voltage	kV	—	0.5	2
		Rated induction current	A	—	0.4	2
		Rated induction voltage	kV	—	3	6
Open/close bus switching circuit		A	—	1600	1600	1600
Mechanical life		Time	3000	3000	3000	3000
Single pole weight		kg	80	240	300	650

Disconnect

5 Outline and Installation Dimension (Unit: mm)

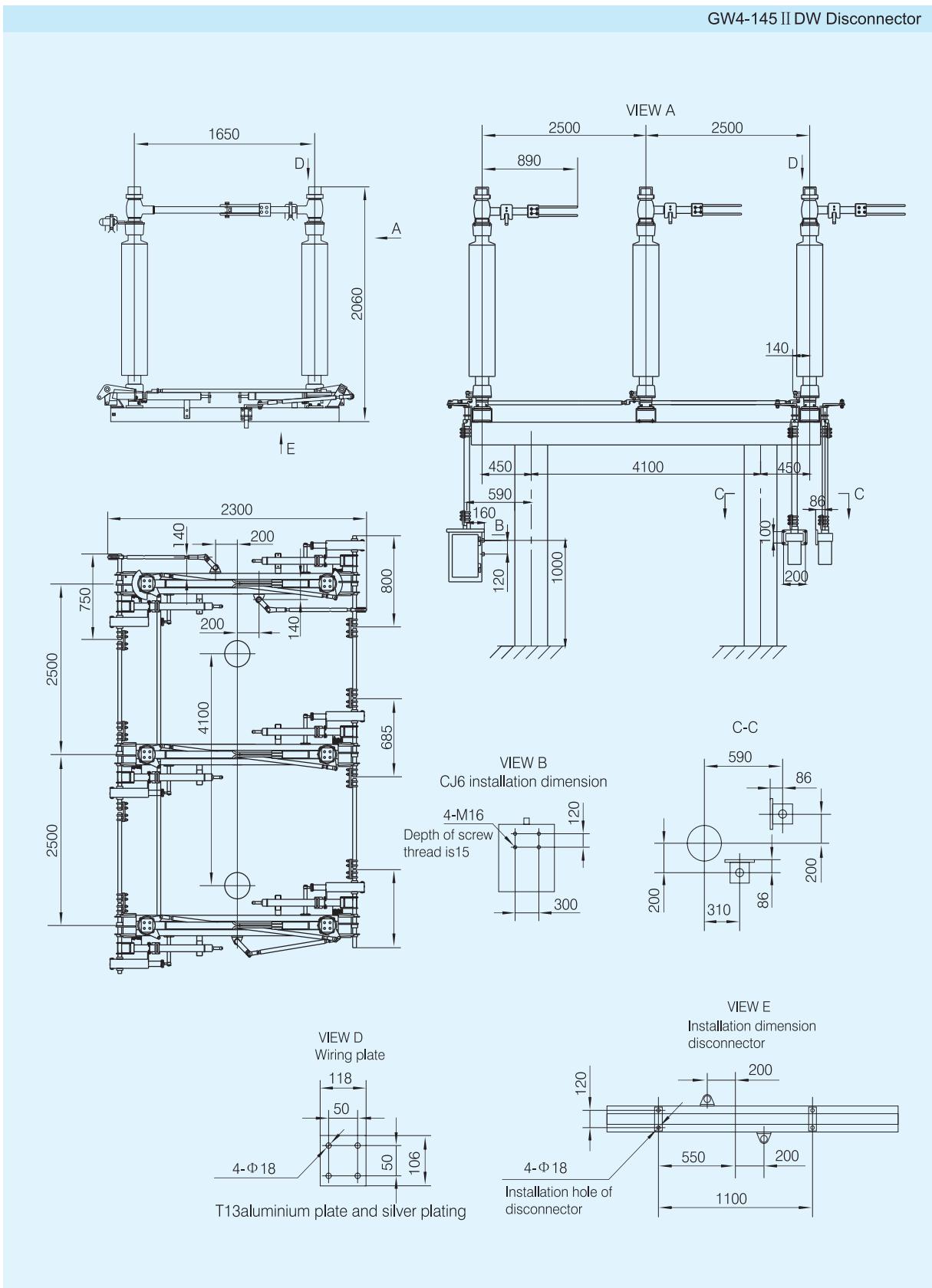


Disconnect

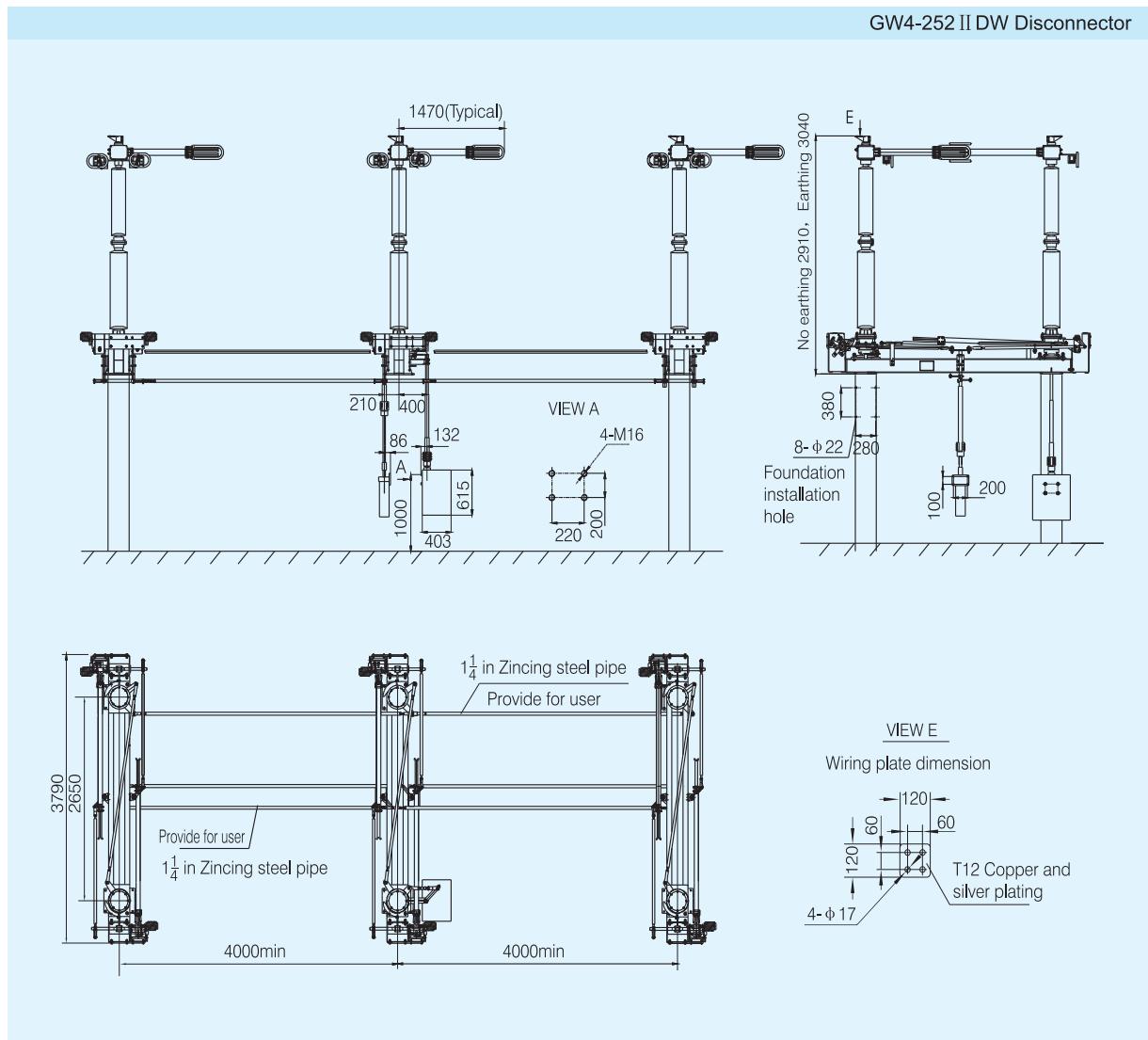


Disconnect

GW4-145 II DW Disconnector



Disconnect



6 Ordering Information

Please specify the following items when ordering:

- 6.1 Model, specification and quantity of disconnector.
- 6.2 Rated current, rated short time and peak withstand current.
- 6.3 Pollution level and altitude.
- 6.4 Please indicate whether fitted with earthing blade, in which side and whether fitted with electromagnetic lock.
- 6.5 The electric motor voltage, control voltage and auxiliary poles of electric operation mechanism.

※ Note: Customized products are available.

Disconnector



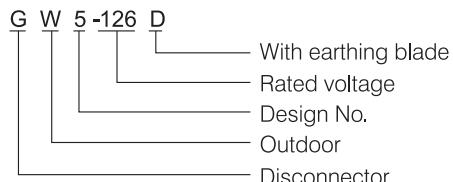
GW5-126 Outdoor AC Disconnector (126kV)

1 General

1.1 Application: three-phase AC 50Hz outdoor HV electrical apparatus, for switching under no-load condition and electrical disconnecting between electrical apparatus under repairing and live HV circuit in rated voltage 110kV power system.

1.2 Standard: IEC 62271-102.

2 Type Designation



3 Working Condition

3.1 Altitude: $\leq 2000\text{m}$

3.2 Ambient air temperature: $-40^{\circ}\text{C} \sim +40^{\circ}\text{C}$

3.3 Max wind velocity: 34m/s

3.4 Seismic: Horizontal acceleration: 0.250g
Vertical acceleration: 0.125g

3.5 Thickness of ice covering: $\leq 10\text{mm}$

3.6 Pollution level of insulator: III (25mm/kV), IV (31mm/kV)

3.7 Installation area without fire, explosion, chemical corrosion and frequent shocking.

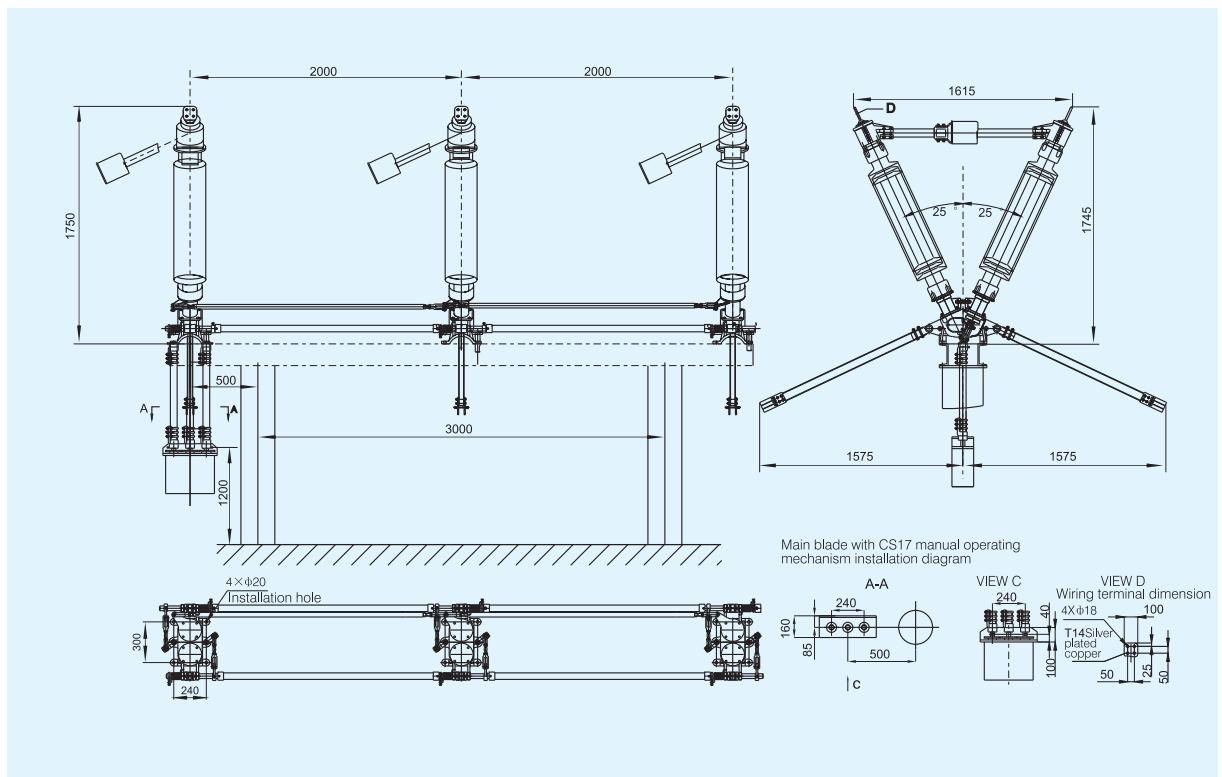
4 Technical Parameter

Item		Unit	Parameter
Rated voltage		kV	126
Rated current		A	2000
Rated withstand current (peak)		kA	100
Rated short time withstand current, 3s (effective value)		kA	40
Rated frequency		Hz	50
Earthing switch	Rated withstand current (peak)	kA	100
	Rated short time withstand current, 3s (effective value)	kA	40
Rated tension of connecting terminals	Longitudinal	N	1000
	Horizontal	N	750
	Vertical	N	1000
Rated insulation level	Rated short time power frequency withstand voltage (effective value)	To earth	kV 230
		Open contacts	kV 230+70
	Lightening impulse withstand voltage (peak)	To earth	kV 550
		Open contacts	kV 550+100
Earthing switch induction current open/close capability	Electromagnet coupling	Rated induction current	A 50
	Electrostatic coupling	Rated induction voltage	kV 0.5
		Rated induction current	A 0.4
		Rated induction voltage	kV 3
Open/close bus switching circuit		A	1600
Mechanical life		Time	3000
Disconneter circuit resistance		$\mu\Omega$	85
Single pole weight		kg	230

Disconnecter

5 Outline and Installation Dimension (Unit: mm)

GW5-126IIDW Disconnector



6 Ordering Information

Please specify the following items when ordering:

6.1 Model, specification and quantity.

6.2 Rated current, rated short time and peak withstands current, pollution level of porcelain.

6.3 Please indicate whether fitted with earthing blade, on which side and whether fitted with electro magnetic lock.

※ Note: Customized products are available.

Disconnector

GW7-252 Outdoor AC Disconnector (252kV)

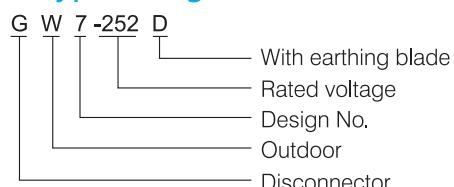
1 General



1.1 Application: three-phase AC 50Hz outdoor HV electrical apparatus, for switching under no-load condition and electrical disconnecting between electrical apparatus under repairing and live HV circuit in rated voltage 220kV power system.

1.2 Standard: IEC 62271-102.

2 Type Designation



3 Working Condition

- 3.1 Altitude: $\leq 2000\text{m}$
- 3.2 Ambient air temperature: $-40^\circ\text{C} \sim +40^\circ\text{C}$
- 3.3 Max wind velocity: 34m/s
- 3.4 Seismic: Horizontal acceleration: 0.250g
Vertical acceleration: 0.125g
- 3.5 Thickness of ice covering: $\leq 10\text{mm}$
- 3.6 Pollution level of insulator: III(25mm/kV), IV(31mm/kV)
- 3.7 Installation area without fire, explosion, chemical corrosion and frequent shocking.

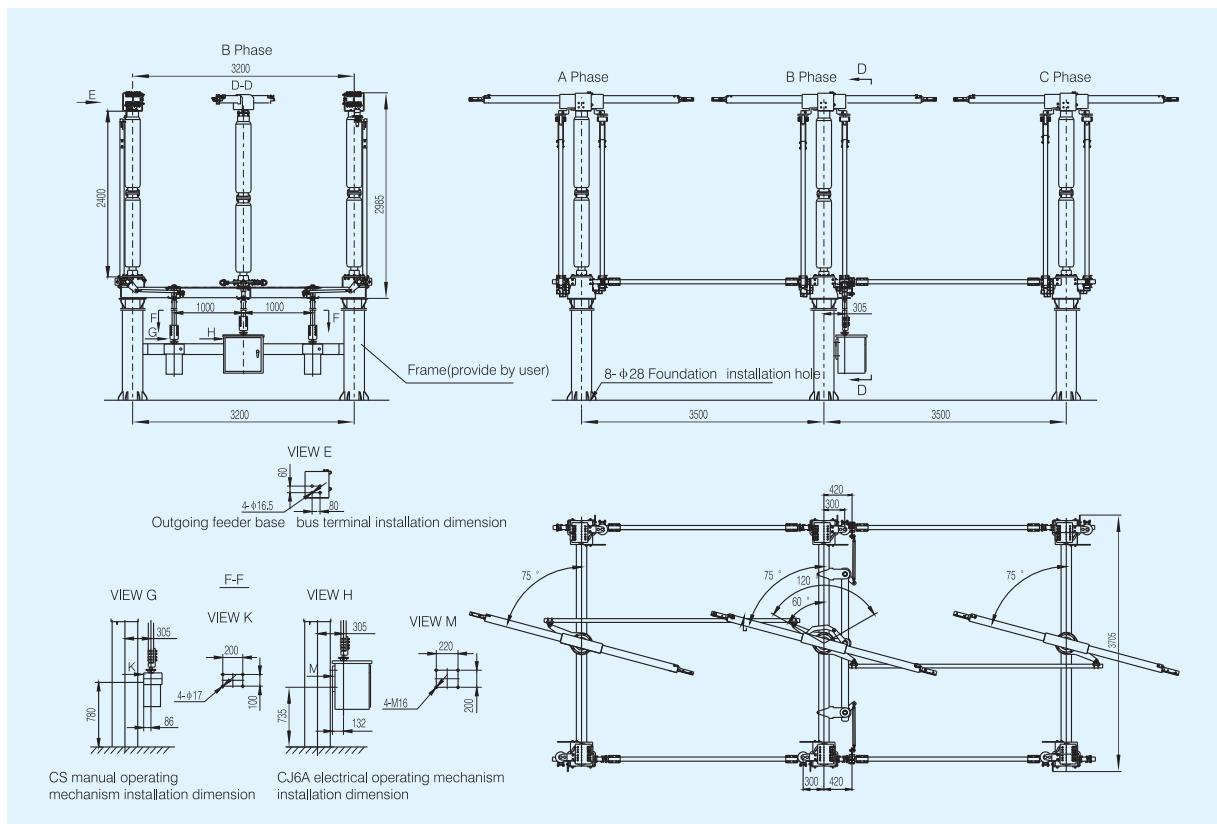
4 Technical Parameter

Item		Unit	Parameter
Rated voltage		kV	252
Rated current		A	5000
Rated withstand current (peak)		kA	160
Rated short time withstand current, 3s (effective value)		kA	63
Rated frequency		Hz	50
Earthing switch	Rated withstand current (peak)	kA	160
	Rated short time withstand current, 3s (effective value)	kA	63
Rated tension of connecting terminals	Longitudinal	N	1500
	Horizontal	N	1000
	Vertical	N	1250
Rated insulation level	Rated short time power frequency withstand voltage (effective value)	To earth	kV
		Open contacts	kV
	Lightning impulse withstand voltage (peak)	To earth	kV
		Open contacts	kV
Earthing switch induction current open/close capability	Electromagnet coupling	Rated induction current	A
		Rated induction voltage	kV
	Electrostatic coupling	Rated induction current	A
		Rated induction voltage	kV
Open/close bus switching circuit		A	1600
Mechanical life		Time	3000
Disconneter circuit resistance		$\mu\Omega$	50
Single pole weight		kg	1020

Disconnector

5 Outline and Installation Dimension (Unit: mm)

GW7-252IIDW Disconnector



6 Ordering Information

Please specify the following items when ordering:

- 6.1 Model, specification and quantity.
- 6.2 Rated current, rated short time and peak withstands current.
- 6.3 Please indicate whether fitted with earthing blade, on which side and whether fitted with electromagnetic lock.
- 6.4 The electric motor voltage, control voltage and auxiliary poles of electric operating mechanism.

※ Note: Customized products are available.

Disconnecter

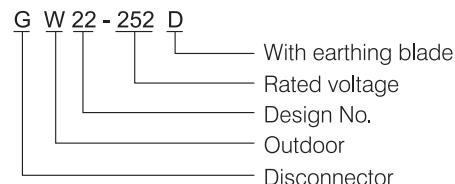


GW22-252 Outdoor AC Disconnector of Vertical single-column & Single-arm Flexible Fold Type (252kV)

1 General

- 1.1 Application: single-column single-arm vertical fold type three-phase AC 50Hz outdoor HV electrical apparatus, for switching under no-load condition and electrical disconnection between electrical apparatus and live circuit in rated voltage 252kV power system.
- 1.2 Standard: IEC 62271-102.

2 Type Designation



3 Working Condition

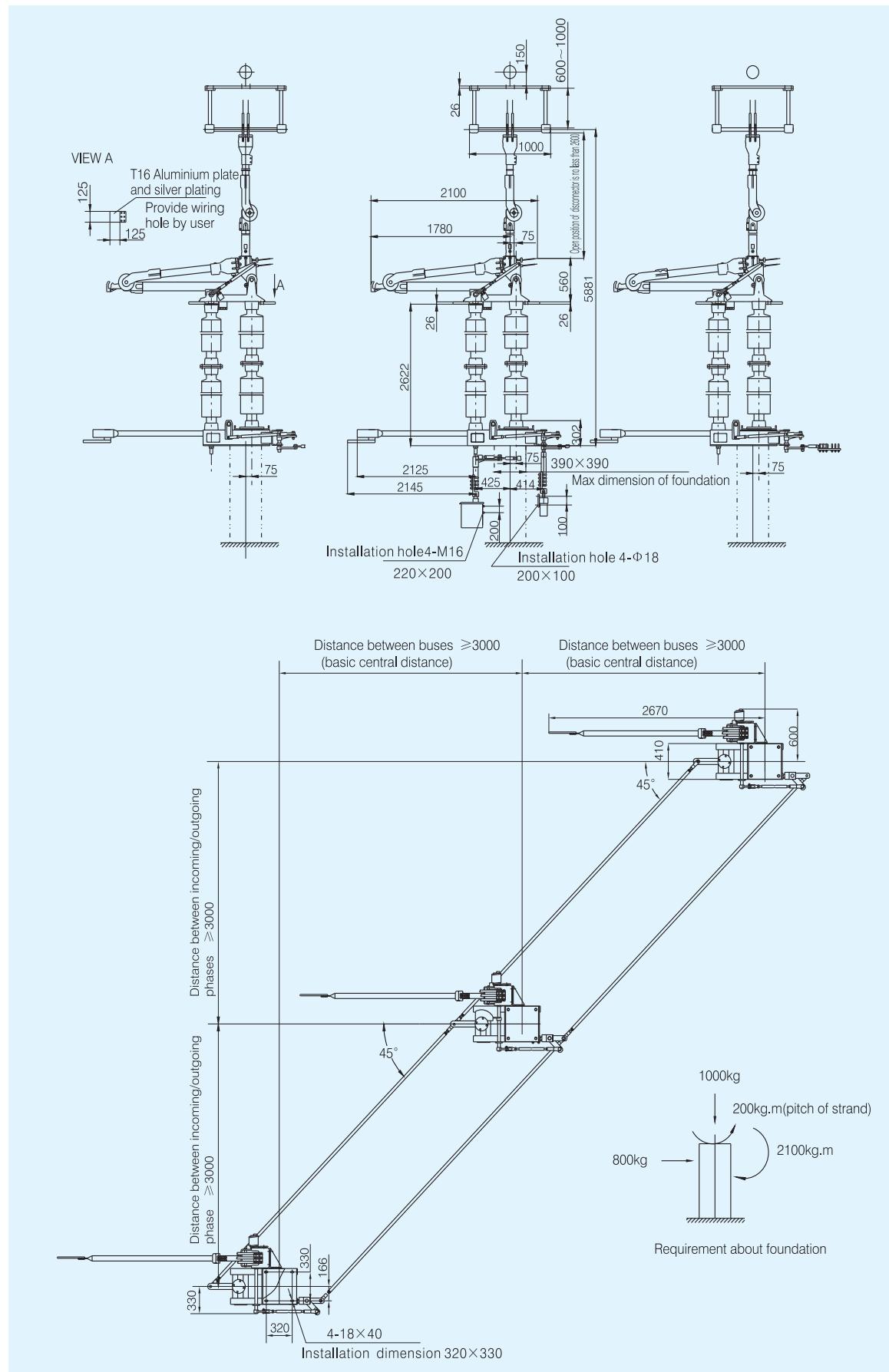
- 3.1 Altitude: $\leq 2000\text{m}$
- 3.2 Ambient air temperature: $-40^{\circ}\text{C} \sim +40^{\circ}\text{C}$
- 3.3 Max wind velocity: 34m/s
- 3.4 Seismic: Horizontal acceleration: 0.250g
Vertical acceleration: 0.125g
- 3.5 Thickness of ice covering: $\leq 10\text{mm}$
- 3.6 Pollution level of insulator: III (25mm/kV), IV (31mm/kV)
- 3.7 Installation area without fire, explosion, chemical corrosion and frequent shocking.

4 Technical Parameter

Item		Unit	Parameter
Rated voltage		kV	252
Rated current		A	3150
Rated short time withstand current, 3s		kA	50
Rated peak withstand current		kA	125
Rated power frequency withstand voltage (rms)	To earth	kV	460
	Open contacts	kV	460+145
Rated lightning impulse withstand voltage (peak)	To earth	kV	1050
	Open contacts	kV	1050+200
Mechanical strength of terminals	Longitudinal		2000
	Horizontal	N	1000
	Vertical		1250
Rated contact field (hard wire/soft wire)	Total drift of Level Y		150
	Vertical shift Z	mm	150
	Longitudinal displacement of support conductor X		150
Min failing load		N	8000
ES induction current switching capability	Electromagnetic coupling	Rated induction current	A
		Rated induction voltage	kV
	Electrostatic coupling	Rated induction current	A
		Rated induction voltage	kV
Open/close bus switching circuit		A	1600
Mechanical life		Time	3000
Single pole weight		kg	700

Disconnector

5 Outline and Installation Dimension (Unit: mm)



Disconnecto



6 Ordering Information

Please specify the following items when ordering:

- 6.1 Model, specification and quantity of disconnector.
- 6.2 Rated current, rated short time and peak withstand current.
- 6.3 Pollution level and altitude.
- 6.4 Indicate if fitted with earthing blade or electromagnetic lock.
- 6.5 The electric motor voltage, control voltage and auxiliary poles of electric operation mechanism.

※ Note: Customized products are available.



Disconnector



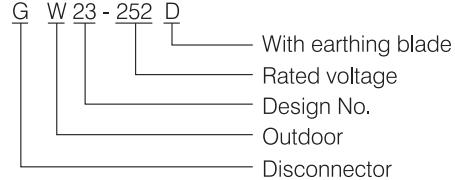
GW23-252 Outdoor AC Disconnector Of Horizontal Double-column & Single-arm Flexible Fold Type (252kV)

1 General

1.1 Application: double-column horizontal fold type three-phase AC 50Hz outdoor HV electrical apparatus, for switching under off-load condition and electrical disconnection between electrical apparatus and live circuit in rated voltage 220kV power system.

1.2 Standard: IEC 62271-102.

2 Type Designation



3 Working Condition

3.1 Altitude: $\leq 2000\text{m}$

3.2 Ambient air temperature: $-40^\circ\text{C} \sim +40^\circ\text{C}$

3.3 Max wind velocity: 34m/s

3.4 Seismic: Horizontal acceleration: 0.250g
Vertical acceleration: 0.125g

3.5 Thickness of ice: $\leq 10\text{mm}$

3.6 Pollution level of insulator: III(25mm/kV), IV(31mm/kV)

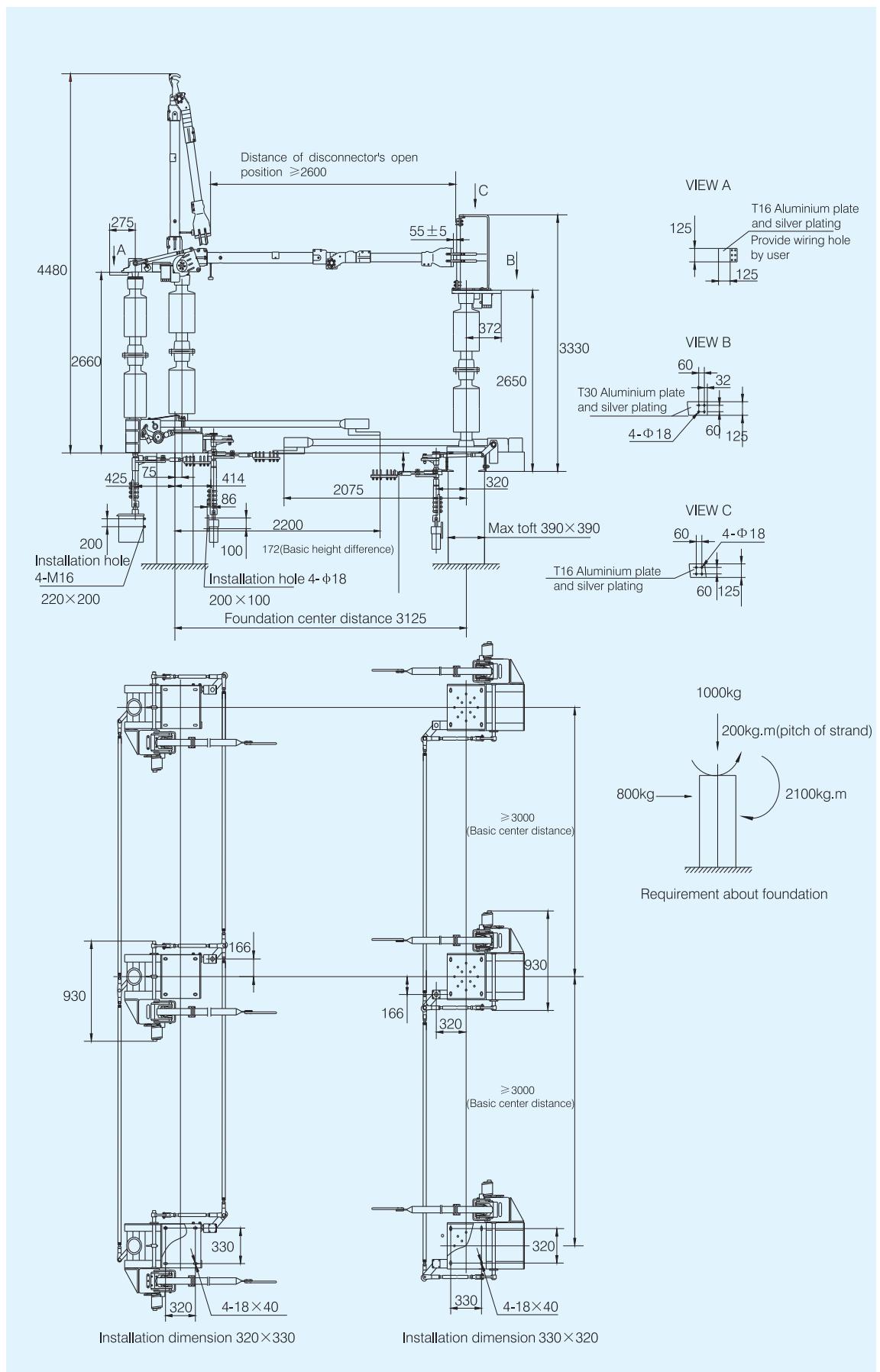
3.7 Installation area without fire, explosion, chemical corrosion and frequent shocking

4 Technical Parameter

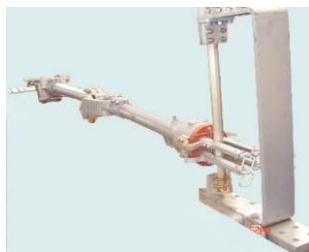
Item		Unit	Parameter
Rated voltage		kV	252
Rated current		A	3150
Rated short time withstand current,3s		kA	50
Rated peak withstand current		kA	125
Rated power frequency withstand voltage	To earth	kV	460
	Open contacts		460+145
Rated lightning impulse withstand voltage	To earth	kV	1050
	Open contacts		1050+200
Mechanical strength of terminals	Longitudinal		1500
	Horizontal	N	1000
	Vertical		1250
Min failing load		N	8000
Earthing switch induction current	Electromagnetic coupling	Rated induction current	A
		Rated induction voltage	kV
open/close capability	Electrostatic coupling	Rated induction current	A
		Rated induction voltage	kV
Open/close bus switching circuit		A	1600
Mechanical life		Time	3000
Single pole weight		kg	1050

Disconnector

5 Outline and Installation Dimension (Unit: mm)



Disconnector



6 Ordering Information

Please specify the following items when ordering:

- 6.1 Model, specification and quantity of disconnector.
- 6.2 Rated current, rated short time and peak withstand current.
- 6.3 Pollution level and altitude.
- 6.4 Please indicate whether fitted with earthing blade, in which side and whether fitted with electromagnetic lock.
- 6.5 The electric motor voltage, control voltage and auxiliary poles of electric operating mechanism.

※ Note: Customized products are available.



Earthing Switch

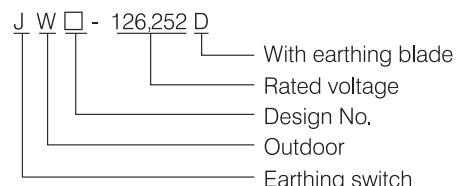


JW□-126, JW□-252 Outdoor AC Earthing Switch (126kV/252kV)

1 General

1.1 Application: three-phase AC 50Hz outdoor HV electrical apparatus, for earthing of HV bus in rated voltage 110~220kV power system.
1.2 Standard: IEC 62271-102.

2 Type Designation



3 Working Condition

3.1 Altitude: $\leq 2000\text{m}$
3.2 Ambient air temperature: $-40^\circ\text{C} \sim +40^\circ\text{C}$
3.3 Max wind velocity: 34m/s
3.4 Seismic: Horizontal acceleration: 0.250g
Vertical acceleration: 0.125g
3.5 Thickness of ice covering: $\leq 10\text{mm}$
3.6 Pollution level of insulator: III(25mm/kV), IV(31mm/kV)
3.7 Installation area without fire, explosion, chemical corrosion and frequent shocking
3.8 Sunshine radiation: $\leq 1000\text{W}/\text{m}^2$ (sunny noon).

4 Technical Parameter

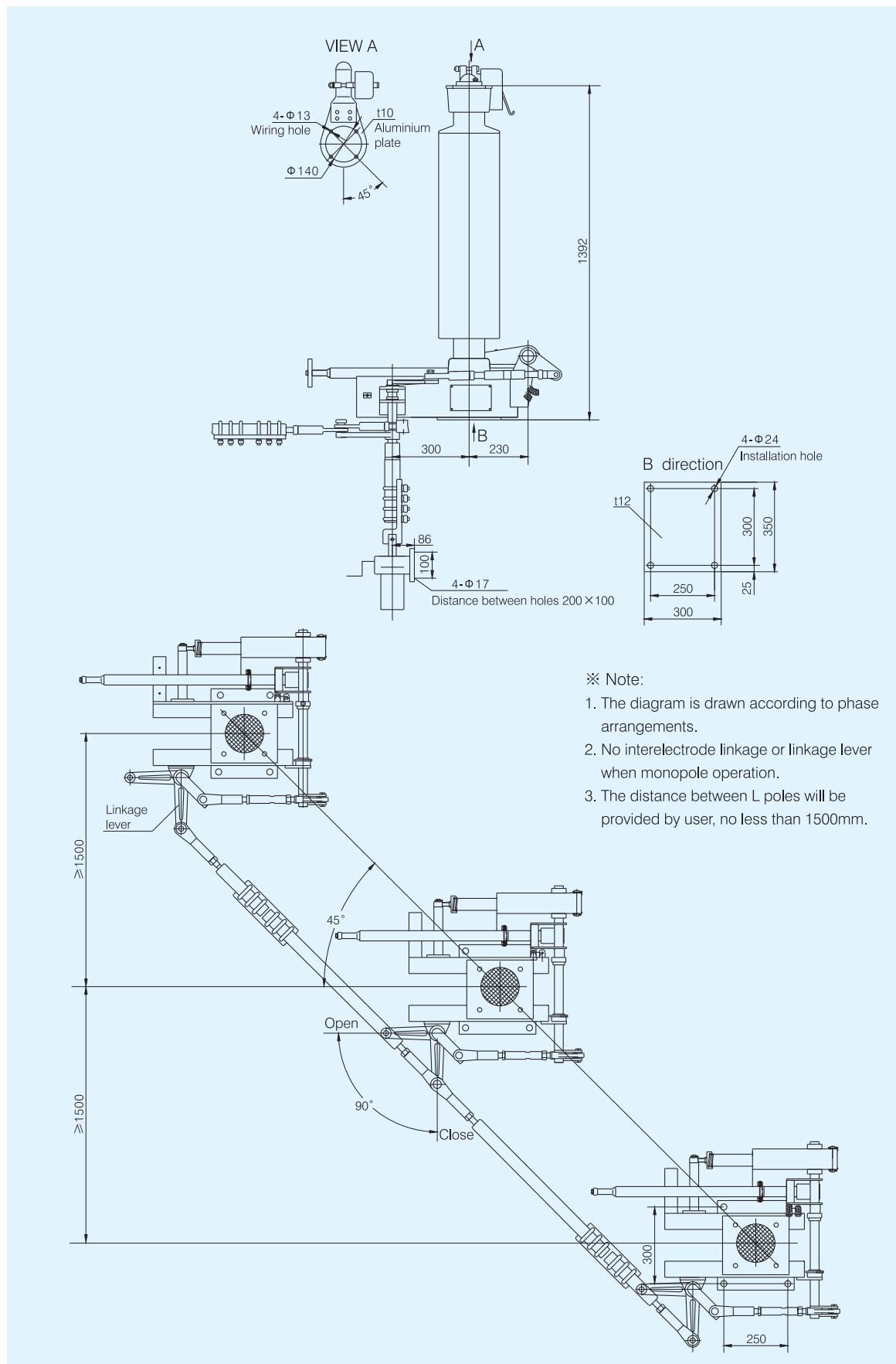
Item		Unit	Parameter		
Rated voltage		kV	126	252	
Rated peak withstand current		A	100	125	
Rated short time withstand current, 3s		kA	40	50	
Rated power frequency withstand voltage	To earth	kV	230	460	
	Open contacts	kV	265	530	
Rated lightning impulse withstand voltage	To earth	kV	550	1050	
	Open contacts	kV	630	1200	
Mechanical strength of terminals	Longitudinal		1000	2000	
	Horizontal	N	750	1500	
	Vertical		1000	1250	
Earthing switch induction current open/close capability	Electromagnetic coupling	Rated induction current	A	50	
		Rated induction voltage	kV	0.5	
	Electrostatic coupling	Rated induction current	A	0.4	
		Rated induction voltage	kV	3	
Mechanical life		Times	3000	3000	
Min failing load		N	6000	8000	
Single pole weight		kg	110	230	
Radio interference level		μV	≤ 2000	≤ 2000	



Earthing Switch

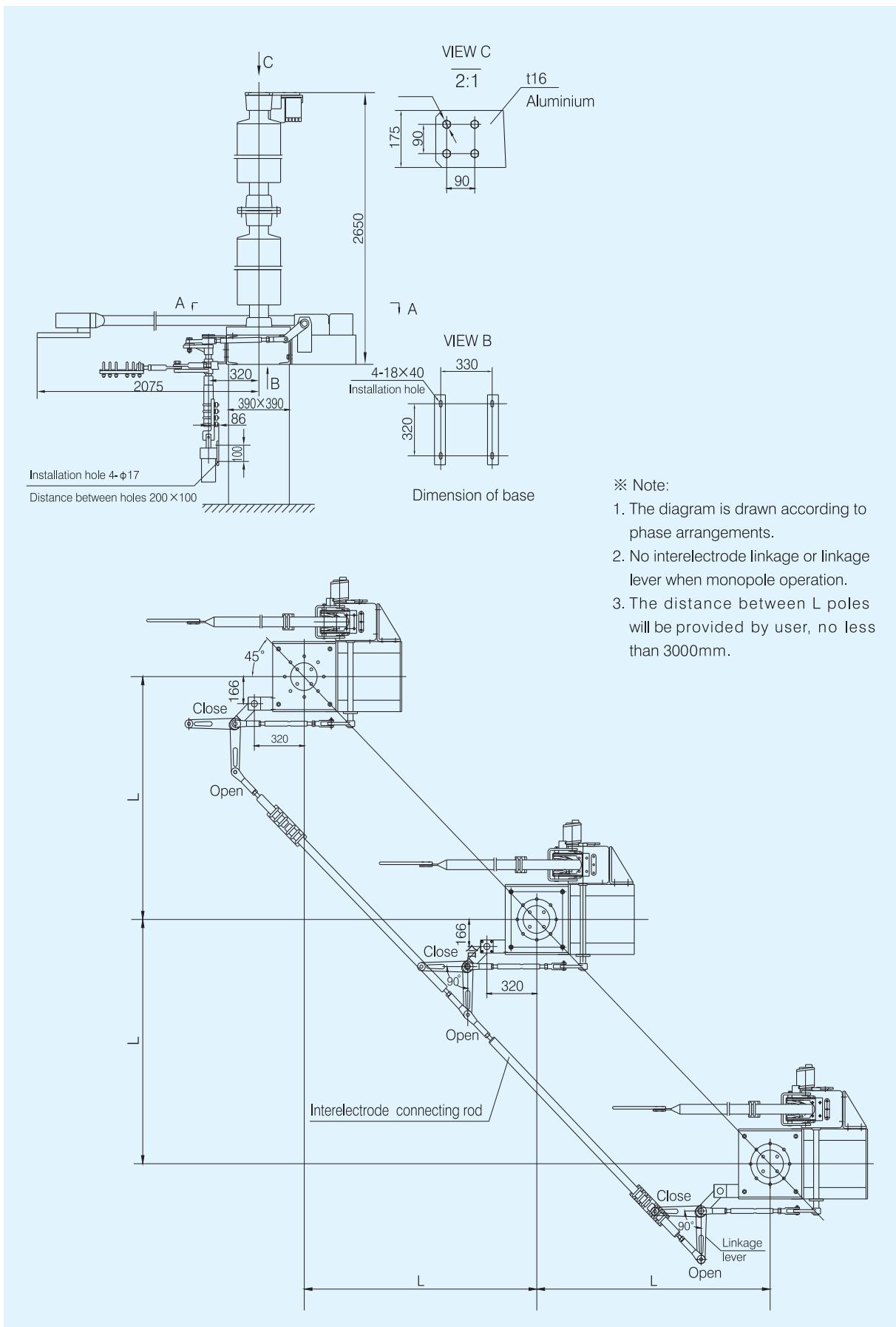
5 Outline and Dimension (Unit: mm)

5.1 JW□ Earthing Switch

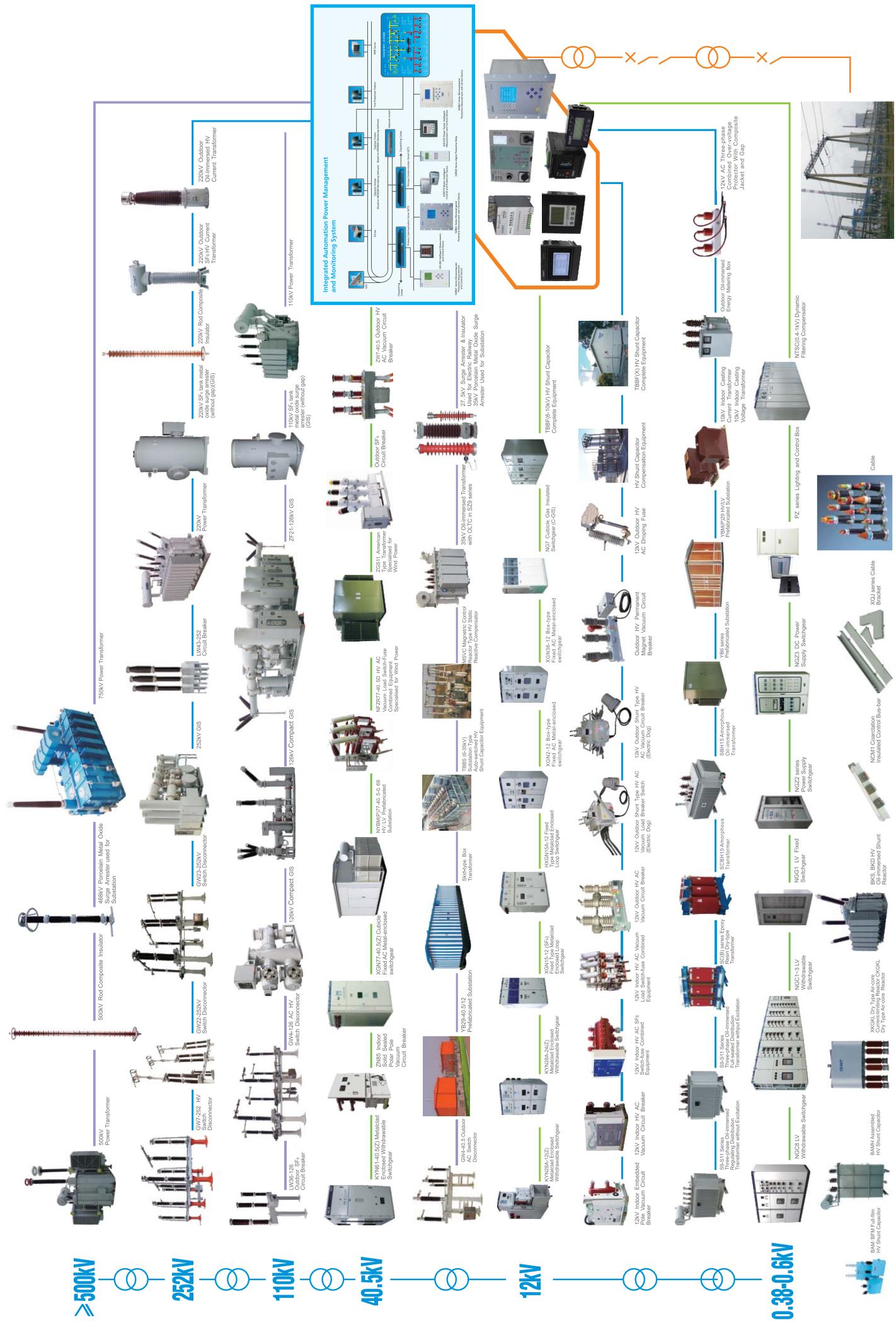


Earthing Switch

5.2 JW□-252 Earthing Switch



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