



SF6 FREE RMU ONE-STOP SOLUTION FOR ALL ACCESSORIES AND TECHNOLOGY



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XINGJI ELECTRICAL GROUP

INTRODUCTION 公司简介

兴机电器集团有限公司成立于 2006 年,是研发、生产、销售配电开关元器件及提供专业整体解决方案的高新科技企业。公司先后获得国家专精特新“小巨人”企业、浙江省隐形冠军企业和温州市领军企业等荣誉称号,建有省级企业研究院、省级博士后工作站和CNAS实验室。现拥有国家授权专利178项,其中发明专利28项。兴机电器集团历经多年的发展,环网开关操动机构技术领先,中压开关柜配件占市场主导地位。产品出口覆盖四大洲14个国家,并与世界500强跨国电气巨头ABB、施耐德、西门子、伊顿、特锐德、三菱、阿海珐建立了忠诚的合作伙伴关系,已成为电器配件行业的领导品牌。公司秉承“脚踏实地,稳步发展”的经营理念,持续“智能、自动、数字、绿色”的发展思路,践行“诚信、务实、创新、高效”的核心价值观,全力建设引领新智造发展的未来工厂,精心“打造中国一流电器配套件专业制造商”,努力“让中国开关产品达到世界领先水平”。

Established in 1989, Xingji Electric Group Co., Ltd. is a high-tech enterprises focusing on the research, development, production and sales of power distribution switch components and provide professional integrated solutions. The company has been awarded the honorary titles of National specialized and special “Little Giant” enterprise, Invisible Champion Enterprise of Zhejiang Province and Leading Enterprise of Wenzhou City, etc. It has built provincial enterprise Research Institute, provincial postdoctoral workstation and CNAS laboratory. Now it has 178 national authorized patents, including 28 invention patents. After years of development, the ring network switch operating mechanism technology is leading, and the medium voltage switchgear accessories occupy a dominant position in the market. The products are exported to 14 countries and 4 continents, and it has built up bonds of loyal partnership with the world’s top 500 multinational electrical giants ABB, Schneider, Siemens, Eaton, Tgood, Mitsubishi Group, Areva, and has become a pioneering brand in the electrical accessories industry. Adhering to the business philosophy of “down-to-earth, steady development”, keeping up with the technology trend, continuous research and innovation, upholding the development concept of “green, intelligent, automatic, digital”, the company has fully implemented the ERP system management, spare no effort to build a smart factory leading the development of new intelligent manufacturing, and carefully build “China’s first-class professional manufacturer of electrical accessories”, striving to “let China switch products reach the world’s leading level”.

Company Mission

Provide advanced and reliable operation mechanisms and accessories for China's switchgear industry.
Assist in the development of China's switchgear industry and let China switch products reach the world's leading level.

Company Vision

To be the most Professional and one-stop solution manufacturer of electrical accessories.

Business Philosophy

Down-to-earth, steady development

Core Values

Honesty, pragmatism, innovation and efficiency

Development Concept

Green, intelligent, automatic, digital



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ACCESSORIES AND TECHNOLOGY OF
ENVIRONMENTAL PROTECTION CABINETS



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○ — Suitable for 12kV SF6 FREE cabinet switch series


Splint type solution




solid solution




semi solid

PRODUCT INTRODUCTION

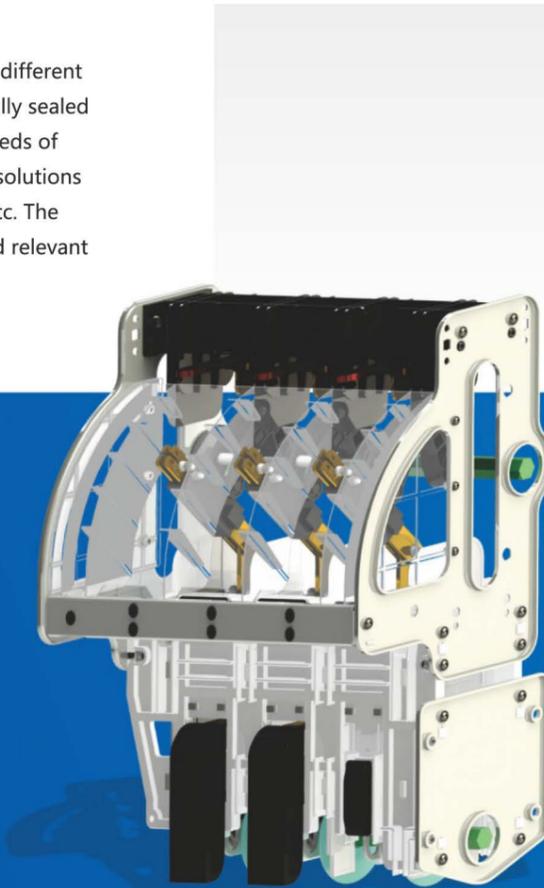
■ Yaoyu SPB SF6 FREE Cabinet Core

Product Overview

Our company has independently developed and designed three different schemes of SF6 FREE cabinet switch series: Splint supported type, Fully sealed pole type, and Semi Solid sealed pole type, in order to satisfy the needs of different customers. Our company can provide users with one-stop solutions for switch, mechanism, cabinet accessories and the whole cabinet, etc. The performance of the three products meets the national standards and relevant test requirements.

Environment condition

- **Ambient temperature:**
-15°C to +40°C (-30°C transport and storage permitted)
- **Average daily relative humidity:**
95% ≤ Average monthly relative humidity: 90%
- **The place requirement**
Installation far from obvious pollution by corrosive, combustible gases, water vapor, etc. or intense shaking.
Earthquake intensity: < 8 degrees
- **Altitude:**
Less than 4000m. When the product is installed higher than 2000m, please specify it so that the manufacturer can adjust the product during production.

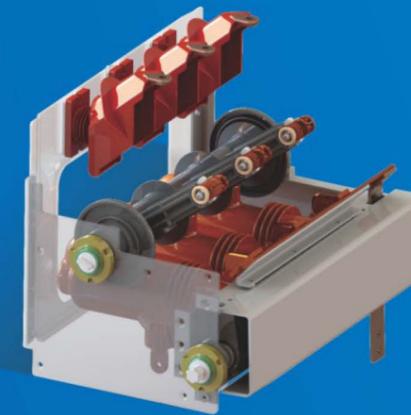


Splint type solution

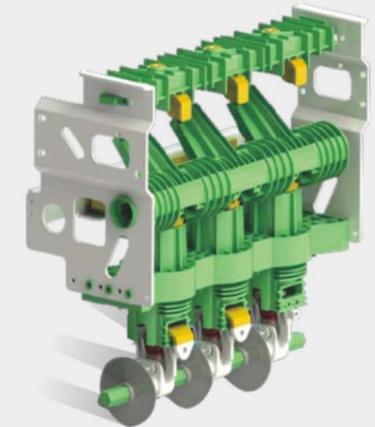
Standard

- GB/T 1984 High voltage AC circuit breaker
- GB/T 1985 High voltage AC isolation switch and earthing switch
- GB/T3804 3.6kV ~ 40.5kV High voltage AC load switch
- GB/T 3906 3.6kV ~ 40.5kV AC metal enclosed switchgear and control equipment
- GB/T 11022 High voltage switchgear and control equipment standard common technical requirements
- GB/T 16926 High-voltage alternating current switch-fuse combinations
- GB/T 16927.1 High voltage test techniques--Part 1: General test requirements
- DL/T 402 High voltage AC circuit breakers order technical conditions
- DL/T 486 High-voltage alternating-current disconnectors and earthing switches
- DL/T 593 High voltage switch equipment and control equipment of common technical requirements

State Grid 12kV ring main unit standardized design scheme



solid solution

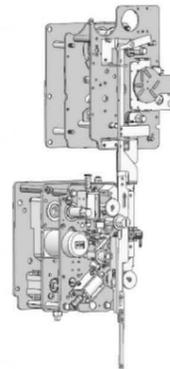
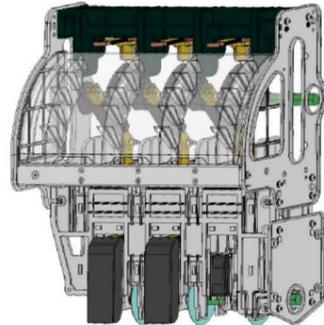


semi solid

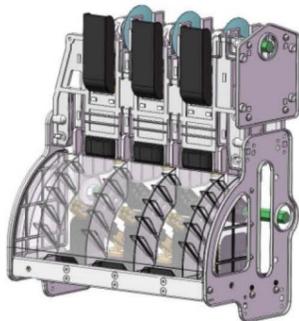
■ SF6 free insulated switch body (splint supported type)



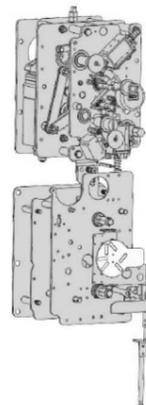
upper disconnecter lower circuit breaker switch
SPB I VS-12D/630-20



■ SF6 FREE upper disconnecter mechanism
SPET I SG332(SL)
SF6 FREE upper disconnecter circuit breaker mechanism
SPD07(AFT)J(FZ6)/SL(10 I)



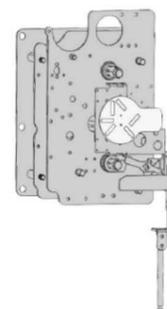
lower disconnecter upper circuit breaker switch
SPB I VX-12D/630-20



■ SF6 FREE lower disconnecter circuit breaker mechanism
SPD07(AFT)J(FZ6)(XL10 I)
SF6 FREE lower disconnecter mechanism
SPET I SG332(XL)



PT disconnecter switch
SPB I G-12D/630-20

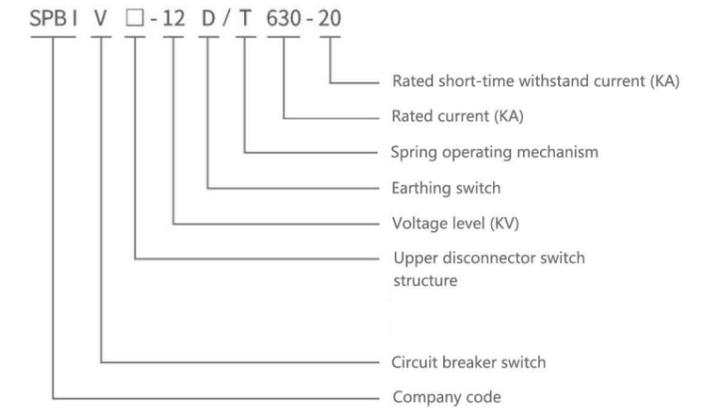


■ SF6 FREE PT disconnecter mechanism
SPET I SG332

Product characteristics

1. Applicable to 12kV SF6 Free insulated ring main unit.
2. The overall layout structure complies with the State Grid's standard cabinet program.
3. The core unit of mechanism and switch is highly matched.
4. Switch insulation parts are mostly made of SF6 free thermoplastics with a recovery rate of up to 90%.
5. Gas insulation can be made of environmentally friendly dry air or N2, mixed gases.
6. Small volume, less space occupied, stable structure.

Type meaning

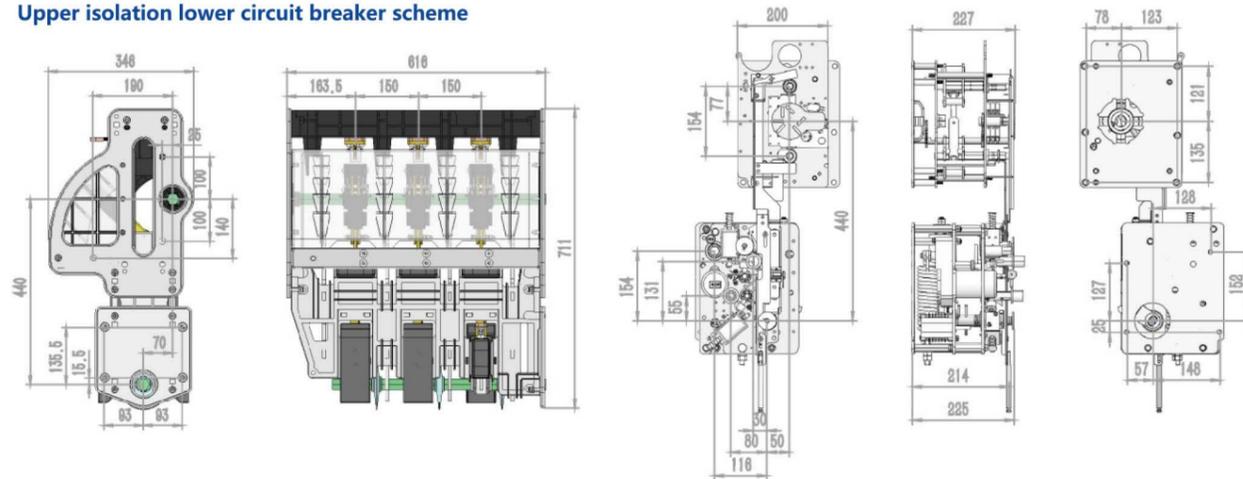


Main technical parameters

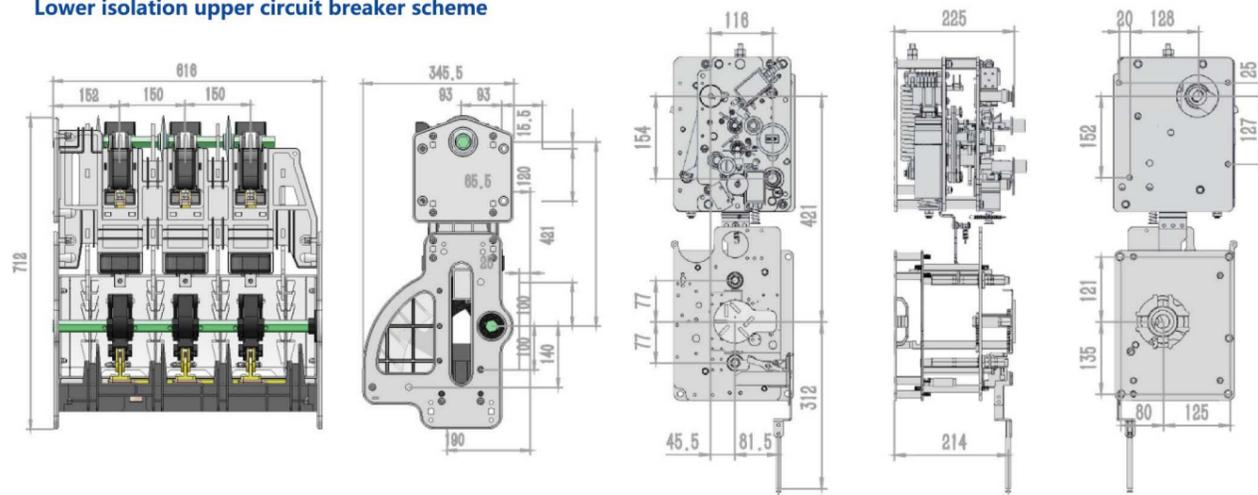
NUMBER	ITEM	unit	VALUE
1	Rated voltage	kV	12
2	Rated current	A	630
3	1min Power frequency withstand voltage	Phase to Phase, Phase to earth	kV 42
		Across isolating distance	kV 48
4	Lighting impulse withstand voltage	Phase to Phase, Phase to earth	kV 75
		Across isolating distance	kV 85
5	Rated peak withstand current	kA	50
6	Rated short-time withstand current	KA/S	20/4
7	Rated short-circuit making current	KA	50
8	Rated short-circuit current breaking frequency	kA	30
9	Circuit breaker main circuit resistance	μΩ	≤65
10	Isolation switch main circuit resistance		≤50
11	Partial discharge (1.2Ur)	pC	≤5
12	mechanical life	Circuit breaker	10000
		disconnecter	5000
		earthing switch	3000

■ Splint type body + operating mechanism outline installation dimension drawing

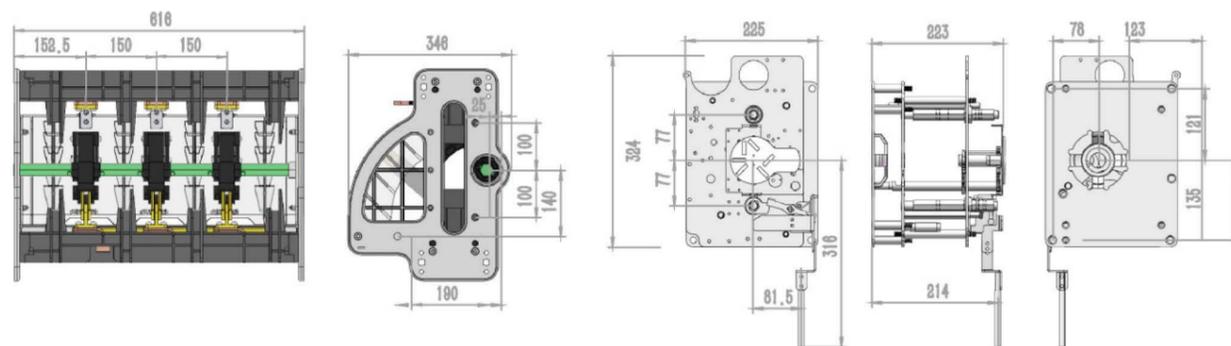
Upper isolation lower circuit breaker scheme



Lower isolation upper circuit breaker scheme



PT isolation scheme



■ Yaoxing SPD 07 Circuit Breaker Operating Mechanism

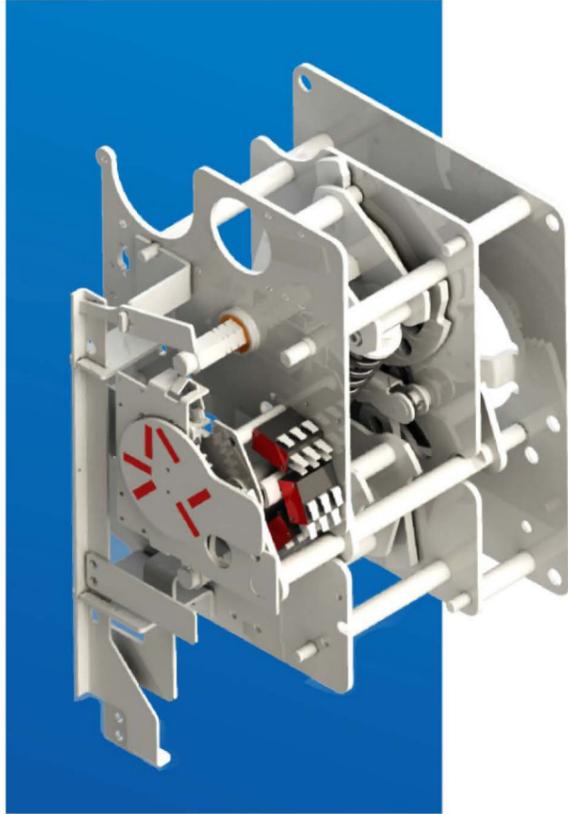
Product Overview

Yaoxing SPD 07 Operating Mechanism is suitable for 12kV-630A series of products, such as SF6 circuit breaker cabinet, SF6 FREE gas-insulated circuit breaker cabinet. Yaoxing SPD 07 Operating Mechanism has the function of enclosing, the volume (size) is small. Rated operating voltage: DC220V, 110V, 48V, 24V; Output angle: about 88°; Mechanical life: 100000 times.

Product characteristics

1. Under the rated voltage, the mechanism's opening release time can be controlled within 28 ms, far lower than the South China Network's 40 ms.
2. The opening release can be effectively released at 45% of low voltage (far beyond the standard 65% range).
3. The opening release can not be released at 30% of low voltage.
4. 10000 times or more of mechanical life satisfaction. Stable and reliable.
5. Optimized transmission, load capacity increased by 20%.
6. Mechanism can choose the plating process according to the user's needs. Salt spray can meet the maximum ≥ 400 hours

■ Yaochen SPET three-position operating mechanism

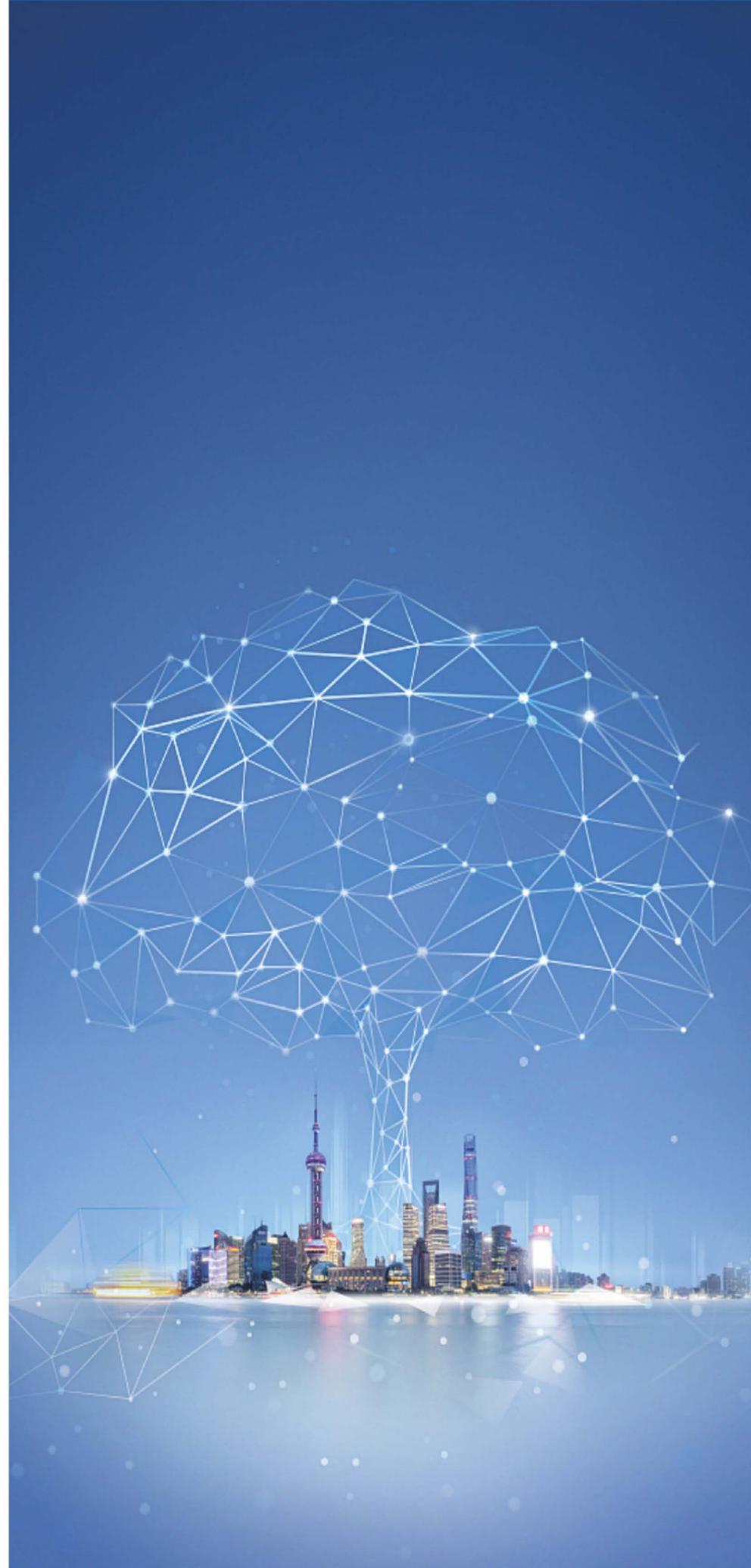


Product Overview

SPET spring operating mechanism adopts compressed spring overshoot control. The working position is three positions: closing, opening and earthing, and closing and earthing are equipped with mechanical interlock to prevent disoperation. Output angle of the mechanism: 80°-0-80°; Average closing and opening speed is 3MS. Mechanical life: 5000 times for closing and 3000 times for earthing. The product has a moderate volume, easy to install and use and strong applicability.

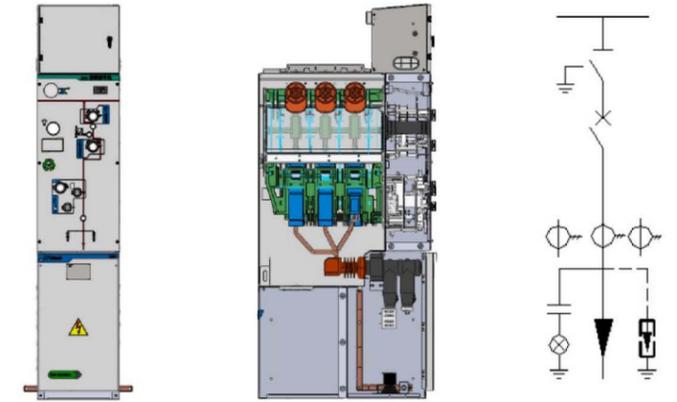
产品特点

- 1.Mechanism output angle: 80°. Mechanical life≥5000 times.
- 2.Three kinds of mechanism bodies are suitable for a variety of interlocking structure.
- 3.The volume of the product is moderate, easy to install and use and strong applicability.
- 4.The interlocking method between the mechanism and the lower door can be of two types: push door type and hanging door type.
- 5.The cable outlet mechanism can realize the interlocking of cable chamber door and fuse chamber door.

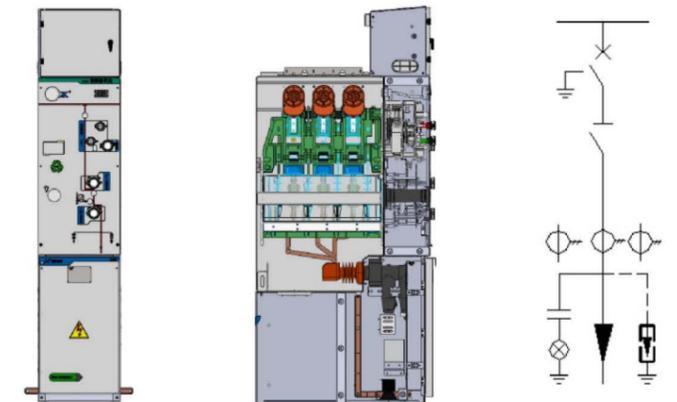


■ Splint supported SF6 FREE cabinet (Whole cabinet application program)

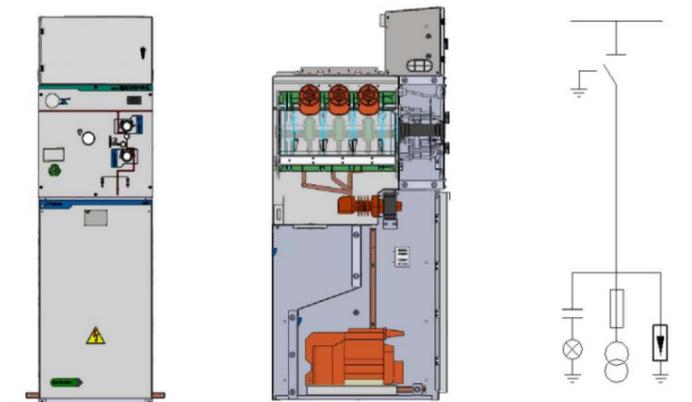
State grid standardized upper isolated lower circuit breaker whole cabinet scheme



Lower isolated upper circuit breaker whole cabinet scheme

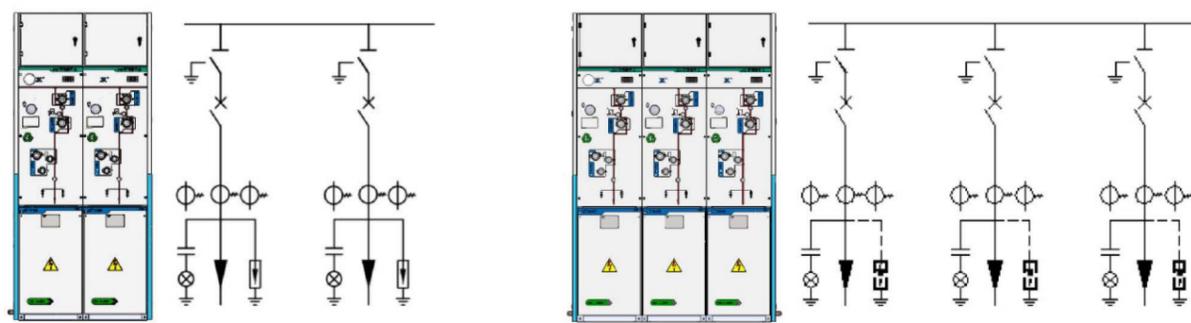


State grid standardized PT whole cabinet scheme



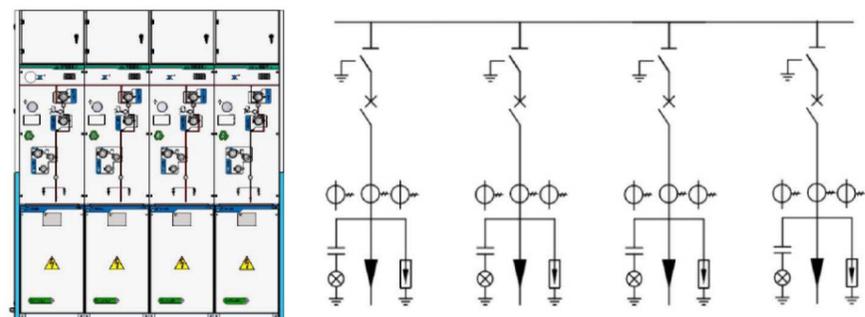


■ Combined unit program configuration

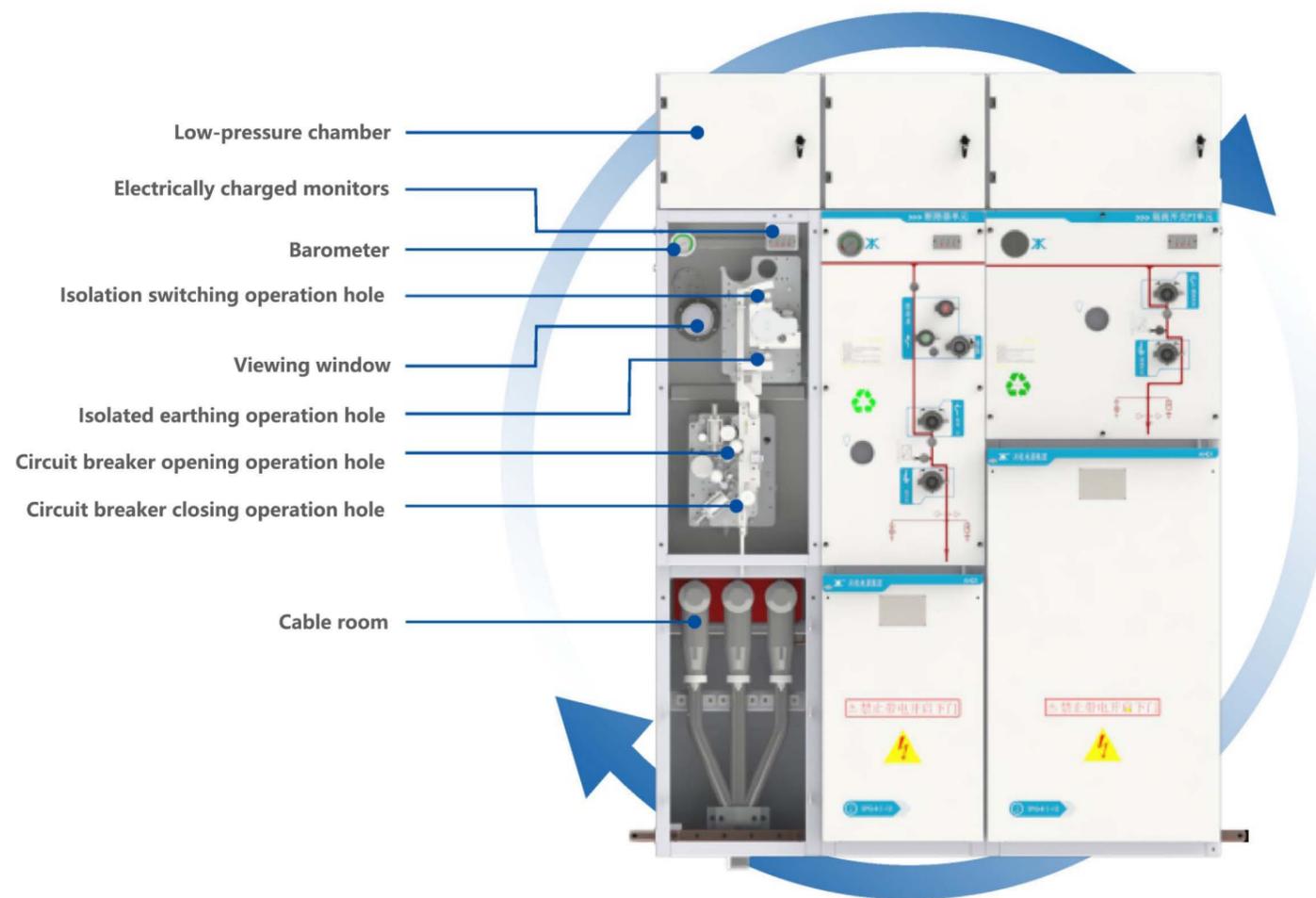


VV cabinet unit program

VVV cabinet unit program



VVVV cabinet unit program



Splint type SF6 FREE switch(top expansion and side expansion scheme for whole cabinet application)



Splint supported environmentally friendly gas-insulated switchgear (top expansion for whole cabinet application)

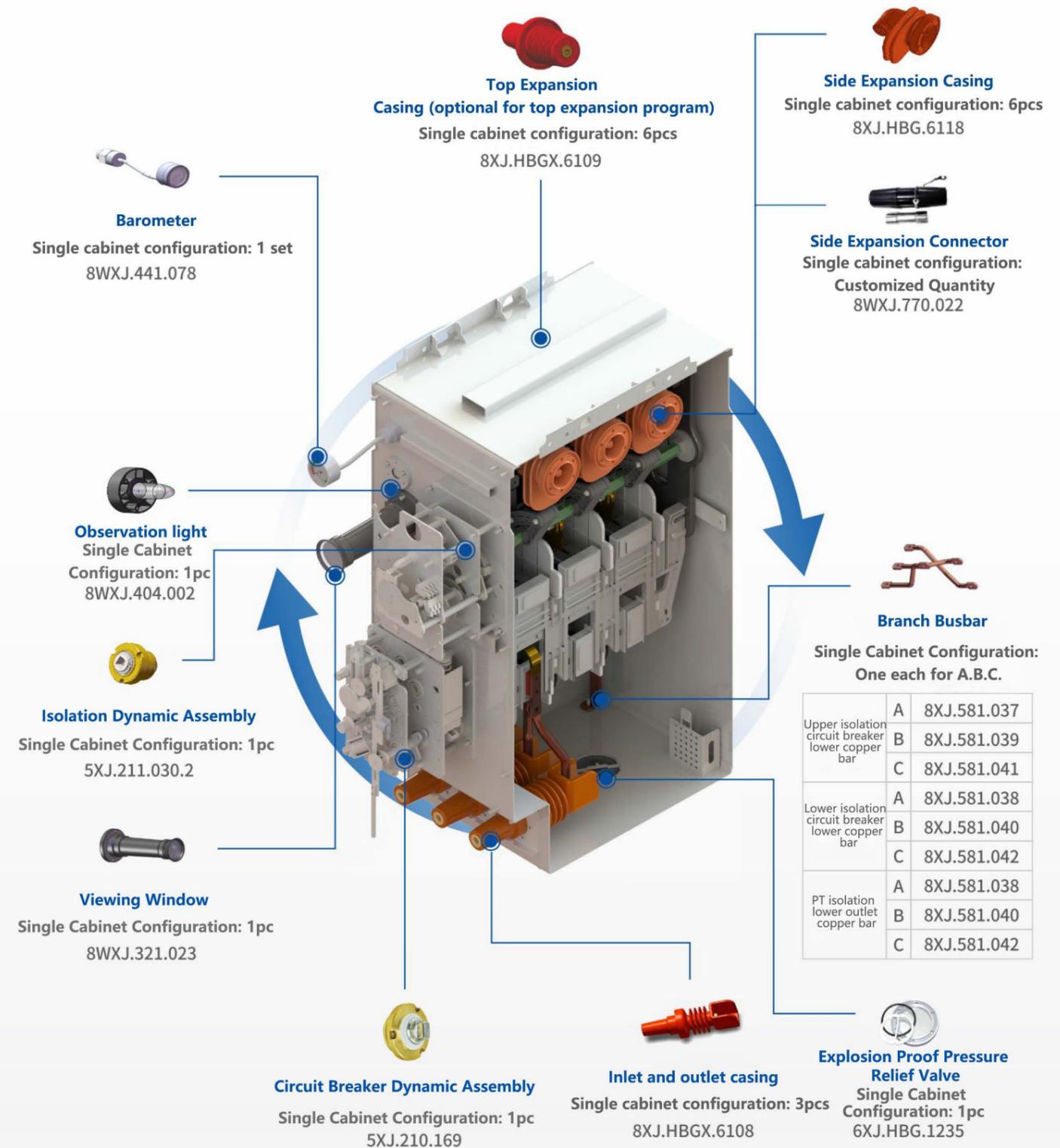


Splint supported environmentally friendly gas-insulated switchgear (side expansion for whole cabinet application)

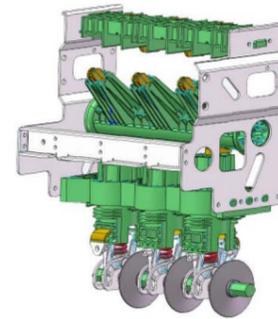
Table of overall dimensions of complete RMU

Type	Width	Height	Depth
V	Top expansion	420mm	1950mm
	Side expansion	420mm	2000mm
PT	Top expansion	600mm	850mm
	Side expansion	600mm	
D	Top expansion	420mm	1950mm
	Side expansion	420mm	2000mm

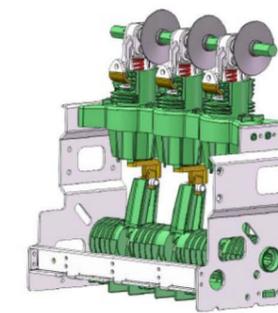
SF6 FREE Cabinet Accessories



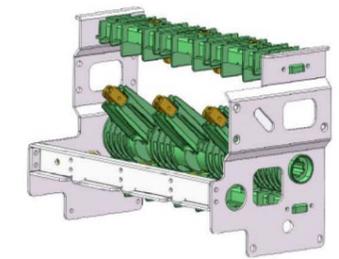
SF6 FREE insulated switch
(Semi solid sealed pole type)



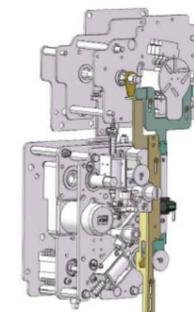

upper disconnecter lower
circuit breaker switch
SPBV S-12D/T630-20



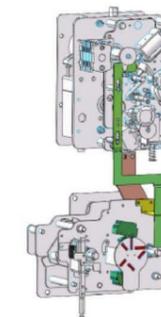

lower disconnecter upper
circuit breaker switch
SPBV X-12D/T630-20



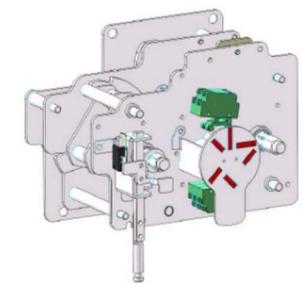

PT disconnecting switch
SPBV G-12D/T630-20




SF6 upper disconnecter
mechanism
SPET(VS)-SG
SF6 Free upper disconnecter
VCB Mechanism
SPD07(VS)(AFT)J(FZ6)




SF6 Free lower disconnecter
VCB Mechanism
SPD07(VX)(AFT)J(FZ6)
SF6 FREE lower disconnecter
mechanism
SPET(VX)-SG




SF6 Free PT disconnecter
mechanism
SPET(PT)-SG

PRODUCT INTRODUCTION

半固封极柱式环保核心单元

Product feature

1. Suitable for 12KV SF6 Free RMU
2. The overall modular structure meets the SGCC standard.
3. Dry air or nitrogen can be used
4. Switch insulation parts are mostly made of SF6 free thermoplastics with a recovery rate of up to 90%.
5. The interrupt adopts a three-phase integrated forming structure, with uniform field strength and better insulation performance

Product Item Code

SPB V □ - 12 D / T 630 - 20

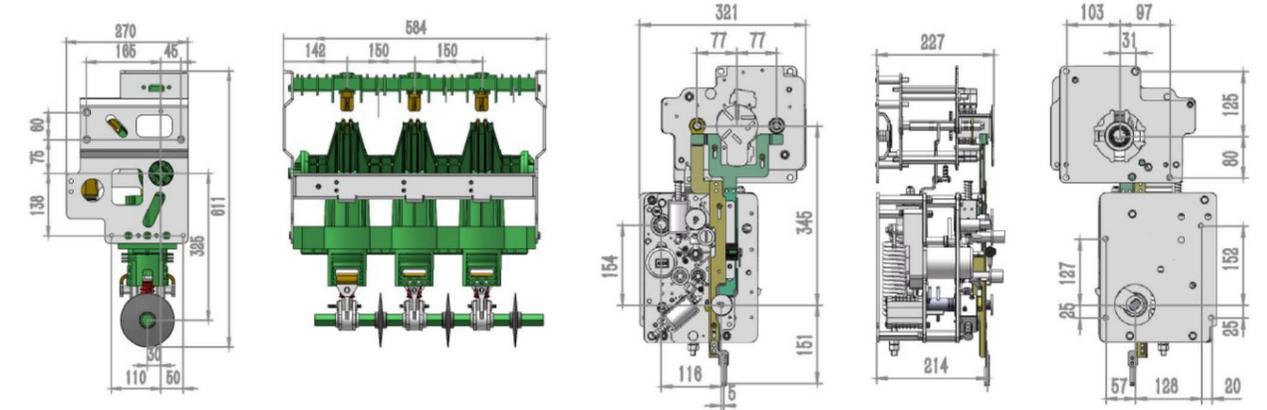
- Short time withstand current
- Rated current (A)
- Spring mechanism
- Earthing switch
- Rated Voltage (KV)
- S: VCB+ Upper disconnect mechanism (Three position)
- X: VCB+ Lower disconnect mechanism (Three position)
- G: disconnecting switch (Three position)
- Xingji SF6 Free Switch Code

Product Parameter

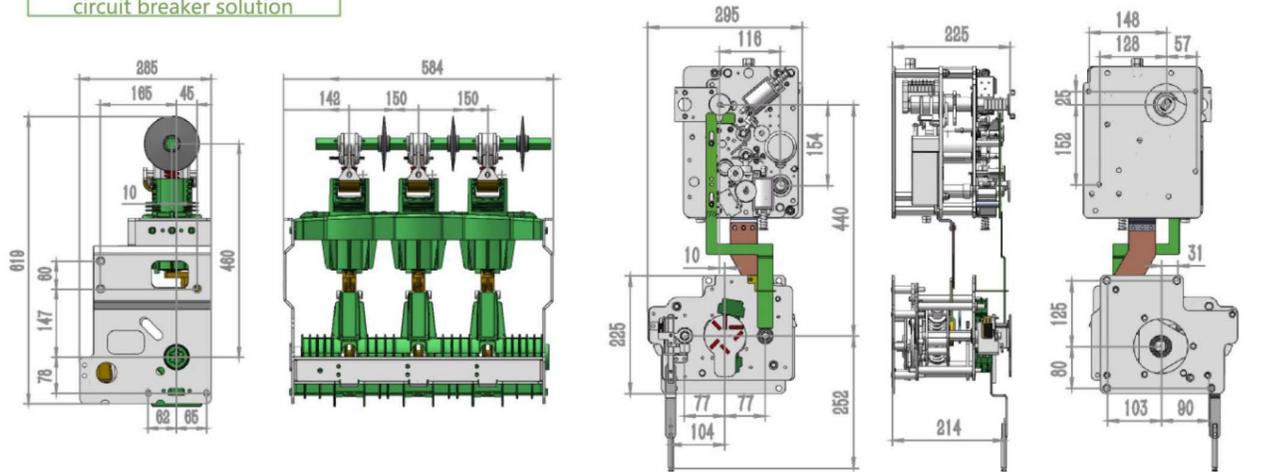
NUMBER	ITEM	unit	VALUE
1	Rated voltage	kV	12
2	Rated current	A	630
3	1min Power frequency withstand voltage	Phase to Phase, Phase to earth	kV 42
		Across isolating distance	kV 48
4	Lighting impulse withstand voltage	Phase to Phase, Phase to earth	kV 75
		Across isolating distance	kV 85
5	Rated peak withstand current	kA	50
6	Rated short-time withstand current	KA/S	20/4
7	Rated short-circuit making current	KA	50
8	Rated short-circuit current breaking frequency	kA	30
9	Circuit breaker main circuit resistance	μΩ	≤65
10	Isolation switch main circuit resistance		≤50
11	Partial discharge (1.2Ur)	pC	≤5
12	mechanical life	Circuit breaker	10000
		disconnector	5000
		earthing switch	3000

■ Semi solid sealed body + operating mechanism outline dimension drawing

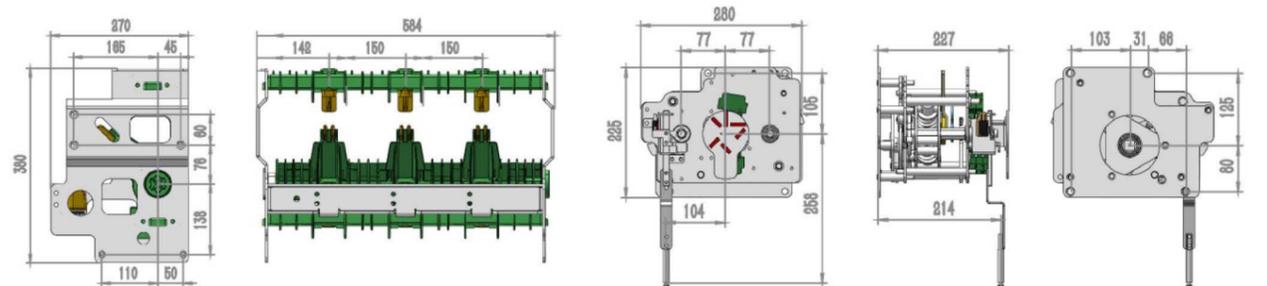
upper disconnector lower circuit breaker solution



lower disconnector upper circuit breaker solution

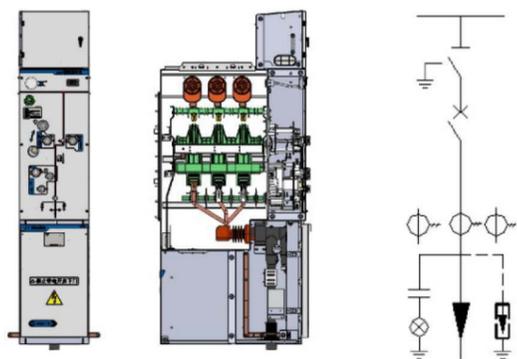


PT disconnecting switch solution

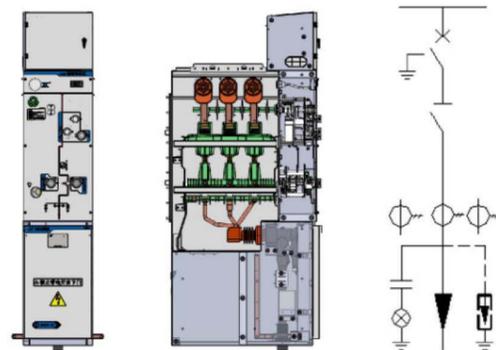


■ Semi solid sealed type SF6 FREE switch (Compete cabinet application solution)

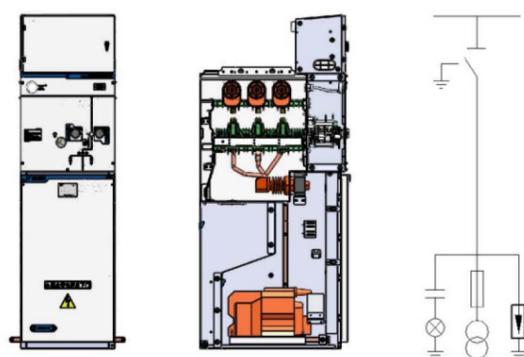
SGCC standard upper disconnector lower circuit breaker complete cabinet solution



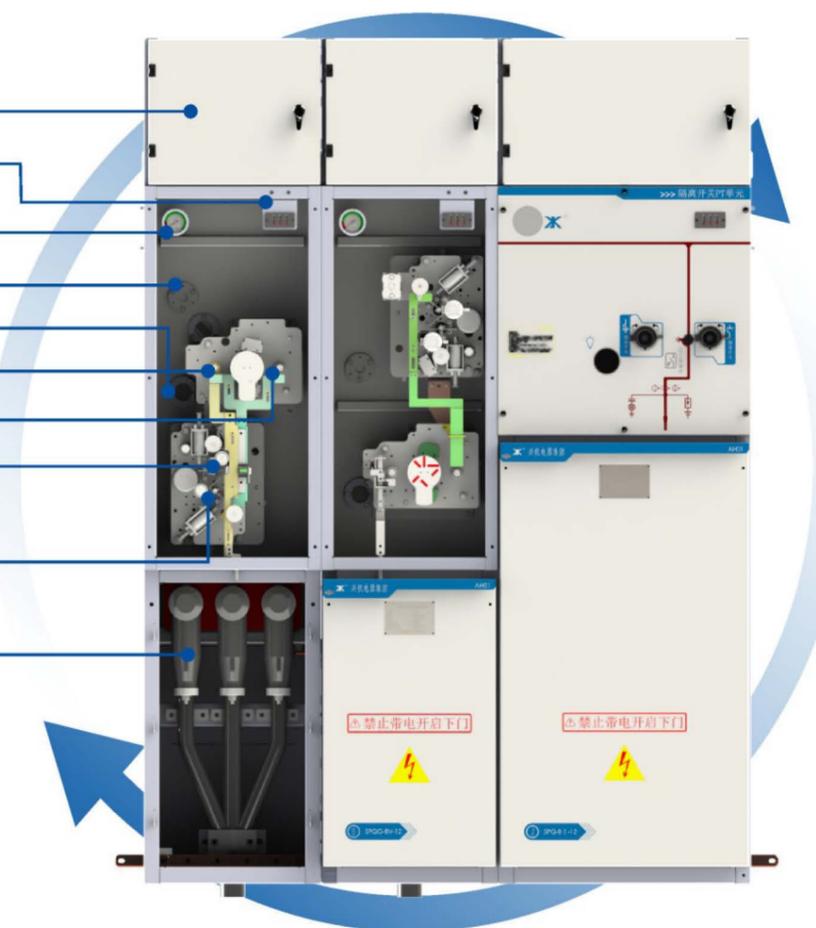
Lower disconnector upper circuit breaker complete cabinet solution



SGCC standard PT complete cabinet solution



- Low-pressure chamber
- Electrically charged monitors
- Barometer
- floodlight
- Observation window
- Disconnecting earthing operation hole
- Disconnecting closing operation hole
- Circuit breaker closing operation hole
- Circuit breaker opening operation hole
- Cable room



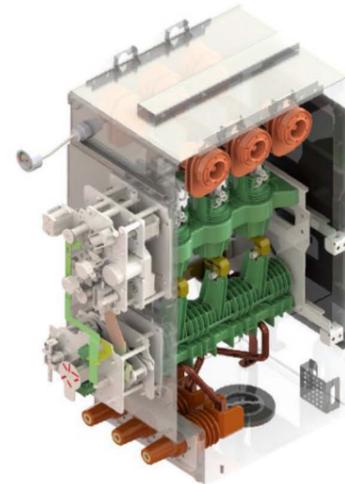
Semi solid sealed pole type SF6 FREE complete cabinet application




Complete cabinet combination solution




Upper disconnector gas tank solution



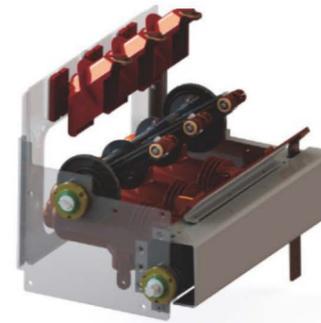

Lower disconnector gas tank solution

■ Semi solid sealed SF6 FREE cabinet accessories selection table

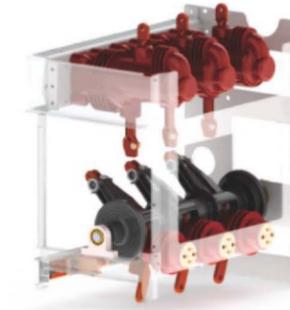
No	Item	model number	Unit configuration based on single cabinet		Picture
1	Lower outlet cable strut	8XJ.HBGX.6108	PCS	3	
2	Side expansion cable strut	8XJ.HBGX.6118	PCS	6	
3	Top expansion cable strut	8XJ.HBGX.6109	PCS	6	
4	SF6 Free cabinet side expansion connector	8WXJ.770.022	PCS	Customer specified quantity	
5	SF6 Free cabinet side expansion plug	8WXJ.770.023	PCS	Customer specified quantity	
6	Upper disconnector lower copper bar	SPQC.8XJ.581.114 SPQC.8XJ.581.113 SPQC.8XJ.581.112	Set	A B one each C	
7	Lower disconnector lower copper bar	SPQC.8XJ.581.122 SPQC.8XJ.581.123 SPQC.8XJ.581.124	Set	A B one each C	
8	PT disconnector lower outlet copper bar	SPQC.8XJ.581.139 SPQC.8XJ.581.140 SPQC.8XJ.581.141	Set	A B one each C	
9	Explosion proof pressure relief valve	6XJ.HBG.1235	Set	1	
10	SF6 Free gas density relay	8WXJ.441.078	Set	1	
11	Observation light	8WXJ.404.002	Set	1	
12	Pressure plate observation window	HDGC-75	Set	1	
13	Disconnector mechanism dynamic seal	5XJ.211.054.HB-D000	PCS	1	
14	Breaker mechanisms dynamic seal	5XJ.210.169	PCS	1	



— SF6 Free gas-insulated switch (fully solid sealed pole type)



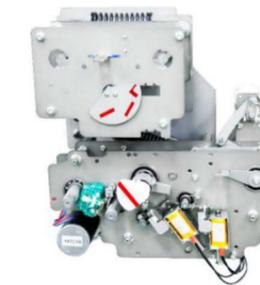
Upper disconnecter lower circuit breaker switch
SPB II (G)-12D / T 630 -20



Lower disconnecter upper circuit breaker switch
SPBIII(G)-12D / T 630 -20



PT disconnecter switch
SPBIV(G)-12D / T 630 -20



SF6 FREE upper disconnecter mechanism
SPE20 S
SF6 FREE upper disconnecter circuit breaker mechanism
SPD 20DPX



SF6 FREE lower disconnecter circuit breaker mechanism
SPD 20 I DPX
SF6 FREE lower disconnecter mechanism
SPE 26S



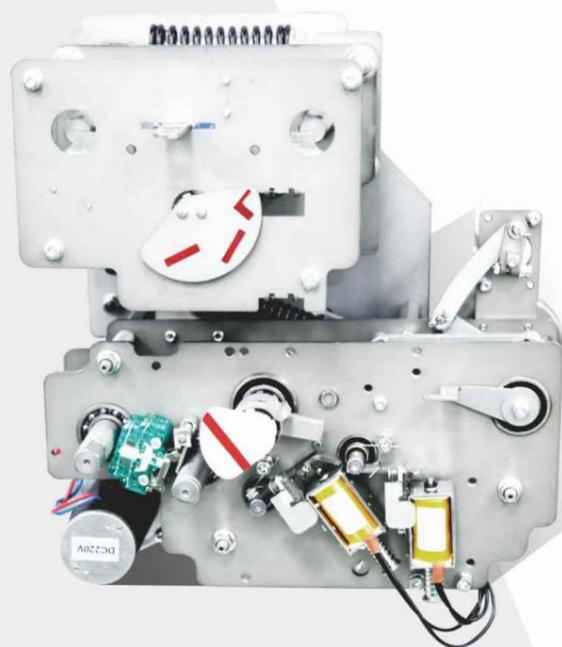
SF6 FREE PT disconnecter mechanism
SPE 20

PRODUCT INTRODUCTION
全固封极柱式环保核心单元



智能制造生产线

■ Fully sealed SF6 FREE cabinet combination mechanism



Product Overview

1.SPB20 fully sealed SF6 FREE cabinet combination mechanism (hereinafter referred to as combination mechanism) is applied to 12kV/630A and other series products. The combination mechanism adopts the mode of SPE20 upper Disconnector three-position mechanism and SPD20 lower circuit breaker mechanism. It has the features of good performance, long service life and easy installation and usage.

2.The circuit breaker operating part of SPD20 combination mechanism has the function of reclosing, rated operating voltage: DC220V, output angle: about 22°. Mechanical service life: 12000 times.

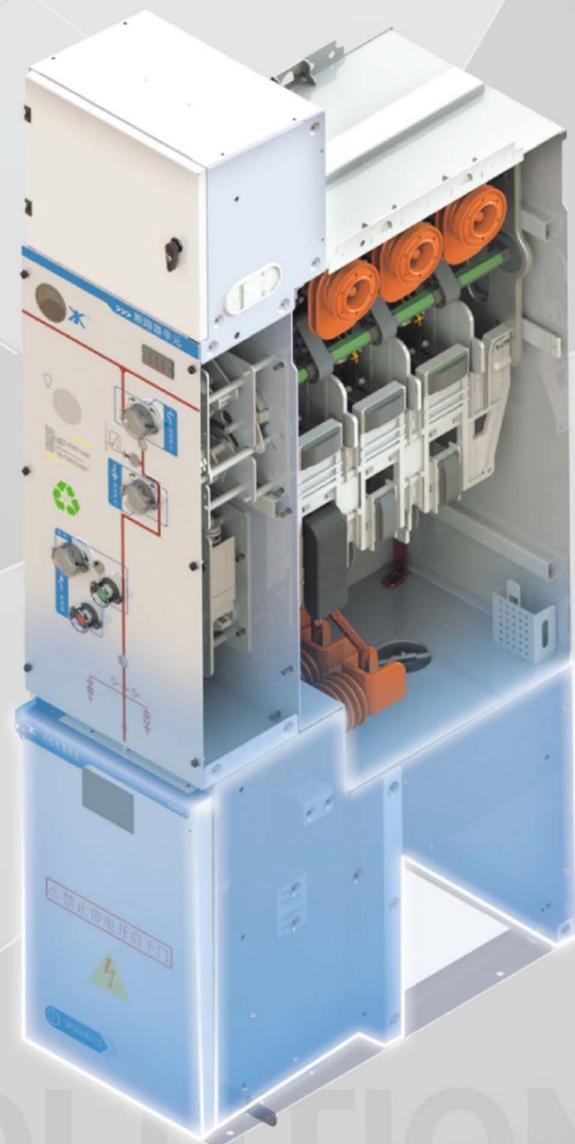
3.The disconnector operating part of SPE20 combination mechanism adopts spring operating control. The working positions are closing, opening and earthing, closing angle: 62°, earthing angle: 50°, mechanical life of disconnecting switch: 5000 times, mechanical life of earthing switch: 3000 times.

■ Fully sealed SF6 FREE cabinet accessories selection table

No	Item	model number	Unit	configuration based on single cabinet	Picture
1	Lower outlet cable strut	8XJ.HBGX.6108	PCS	3	
2	Side expansion cable strut	8XJ.HBGX.6118	PCS	6	
3	SF6 Free cabinet side expansion connector	8XJ.770.022	PCS	Customer specified quantity	
4	Top expansion cable strut	8XJ.HBGX.6109	PCS	6	
5	SF6 Free cabinet side expansion plug	8XJ.770.023	PCS	Customer specified quantity	
6	Upper disconnector lower copper bar	6XJ.HBGX.6508 8XJ.HBG.6121 8XJ.HBG.6122	Set	A B one each C	
7	Lower disconnector lower copper bar	6XJ.HBGX.6508 6XJ.HBGX.6509 6XJ.HBGX.6510	Set	A B one each C	
8	PT disconnector lower outlet copper bar	8XJ.HBG.6122 8XJ.HBG.6121 8XJ.HBG.6120	Set	A B one each C	
9	Explosion proof pressure relief valve	6XJ.HBG.1235	Set	1	
10	SF6 Free gas density relay	8XJ.441.078	Set	1	
11	Observation light	8XJ.404.002	Set	1	
12	Pressure plate observation window	HDGC-75	Set	2 for 1	
13	Peephole observation window	8WX.321.023	Set		
14	Disconnector mechanism dynamic seal	5XJ.200.250	PCS	1	
15	Breaker mechanisms dynamic seal	5XJ.200.249	PCS	1	

数字化 DIGITAL 环保柜 一站式解决方案

ONE STOP SOLUTION FOR DIGITAL ENVIRONMENTAL PROTECTION CABINETS



XINGJI HONOR

企业荣誉



资质认证 Qualification certification



01 中国机械工业科学技术奖 China machinery industry science and Technology Award	02 浙江省服务型制造示范企业 Zhejiang service-oriented manufacturing demonstration enterprise	03 企业信用评价AAA级信用企业 Enterprise Credit Evaluation AAA credit enterprise	04 温州市关键技术攻坚示范企业 Wenzhou key technology demonstration enterprise
05 温州市级研发投入优秀企业 Wenzhou credit management demonstration enterprise	06 浙江省级工业互联网平台优秀企业 Excellent enterprise of Zhejiang Provincial Industrial Internet platform	07 温州市信用管理示范企业 Wenzhou Municipal R & D investment excellent enterprise	

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获评工信部
专精特新“小巨人”企业

中共温州市委
温州市人民政府
二〇二一年九月

国家高新技术企业

企业名称: 兴机电器有限公司 证书编号: GR201930007266
发证时间: 2019年12月4日 有效期: 三年
颁发机关: 浙江省科学技术厅 浙江省财政厅 国家税务总局浙江省税务局

中国电器工业协会
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