Optimus PRO

40.5kV 及以下中压 HMGS

SF6 气体绝缘金属铠装开关柜

SF6 Gas Insulated Metal-clad Switchgear



美嘉科技(鎮江)有限公司
MEGA TECHNOLOGY (ZHENJIANG) CO., LTD.
衆孚企業有限公司
OPTIMUS TECHNOLOGY CO., LTD.
美嘉能源（泰國）有限公司
MEGA ENERGY (THAILAND)CO., LTD.
歐帝馬斯電力技術有限公司(印度)
OPTIMUS POWERTECH PRIVATE LIMITED(INDIA)

PROOPTIMUS

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关于美嘉
About Meijia

PRO OPTIMUS 母线拥有强大的研发资源，完美的质量和满意的服务，并已成功完成许多海内外市场的项目。美嘉科技（镇江）有限公司持续不断的展开产品研发，采用先进的热力学应用程序和制造方法，以提供高性能和高质量的产品给我们的客户。

PRO OPTIMUS busbar boasts strong R&D resources, perfect quality and satisfactory service, and has successfully completed numerous projects in both domestic and overseas markets. Meijia Technology (Zhenjiang) Co., Ltd. continuously conducts product research and development, adopting advanced thermodynamic applications and manufacturing methods to provide high-performance and high-quality products for our customers.





HMGS

气体绝缘金属铠装开关柜 HMGS

Gas Insulated Metal-clad Switchgear, HMGS

SF6 气体绝缘金属铠装开关柜由真空断路器，3- 工位隔离开关，母线连接系统以及电路保护用电气及机械装置组成。

SF6 Gas Insulated Metal-clad Switchgear is an integrated assembly of vacuum circuit breaker, 3-position switch, bus connecting system and control devices coordinated electrically and mechanically for medium voltage circuit protection.

- 紧凑型 Compactness
- 自动控制 Automation
- 高可靠性和安全性 High Reliability and Safety
- 易扩展 Easy Expansion
- 安装方便 Simple Installation
- 高度经济性 Economy



概 述
General

描述 Description

HMGS型C-GIS开关柜是由真空断路器、3-工位隔离开关、母线连接装置和电气机械控制装置组成的，适用于中压系统。
HMGS Cubical type Gas-insulated Switchgear is an integrated assembly of vacuum circuit breaker, 3-position switch, Bus Connecting system and control devices coordinated electrically and mechanically, for medium voltage power system.

采用金属铠装设计，提供给客户可靠性高，经济性好，友好的用户操作界面以及安全性高的产品。
The Metal-Clad design provides High reliability, Economy, User-Friendly operation and Safety.

开关柜由接地的金属板隔开，所以当用户打开门操作的时候，不会看到外露的活动件。
The switchgear is isolated by grounded metal plates ,so no live parts are exposed to operator when door open.

3相共箱的封闭设计，使柜体结构简单。另外，在不拆除母排的情况下，可以在很短的时间内拆除或添加开关部件。
Compact design with three-phase enclosure allows very simple and construction.In addition, the switching section may be dismantled or added in a very short time without the busbar being disconnected.

开关柜适用于额定电压达40.5kV的户内系统。
The Switchgear is available at rated voltage up to 40.5kV installed indoor.

- IEC 62271-200 (2003)
- IEC 62271-100 (2003)
- IEC 62271-102 (2001)
- IEC 60694 (2001)
- GB/T 11022-1999
- GB 3906-2006
- GB 1984-2003

特点 Definition

以下为开关柜的典型特点：

The Switchgear is an optimum assembly by the following features:

- 所有活动部件被密封在壳体内。

  All live parts are enclosed by hermetically sealed.

- 断路器室和母线室是完全封闭的，由不锈钢板焊接而成，而且2个气室是独立的。

  The circuit breaker compartment and busbar compartment are completely enclosed by welded stainless steel (SUS 304L) switchgear container which has separated compartments.

- 真空泡可水平或垂直安装在断路器室内。

  VI are horizontally or vertically installed in the circuit breaker compartment.

- 母线室的3-工位隔离开关有3个位置：电流断开状态（分闸），电流接通状态（合闸），接地状态（接地）。

  The 3-position switch in the bus compartment prepares three conditions as ： current interrupted condition ("Disconnection"), current alive condition ("Connection") and earthing condition ("Earth").

- 所有操作机构安装在气室外。

  All operating mechanisms are fitted outside of the gas compartment.

- 机械连锁保证了操作的安全。

  Mechanical interlocks ensure Safe operating sequence .

HMGS

特点
Features

紧凑型 Compactness

该开关柜具有结构紧凑的优点。
The switchgear provides dimensional compactness.
统一的标准结构简化了排布，同时也给以后的系统扩展留有空间。
Unified standard frame saves and simplifies the layout.
It also permits complete allocation of space for future extension.
该开关柜具有安装及运输方便的特点。
The switchgear enables optimum access and easy installation.





Medium Voltage > > SF 6 Gas Insulated Metal-clad Switchgear

经济便利 Economy and Convenience

- 紧凑性及系统化设计
  Compact and systematical design
- 最适宜工程化
  Optimum engineering
- 模块化设计
  Modular design
- 智能化控制、保护系统
  Intelligent digital control and protection system
- 高可靠的真空灭弧室
  High reliable vacuum interrupters
- 柜与柜联系采用母排插接系统
  Panels coupled by plug-in connecting system
- 两边具有扩展的功能
  Extension capability of existing systems to the both sides
- 整柜厂内安装后已充额定气压的SF_6绝缘气体
  Factory-assembled panels with insulating gas at operating pressure

安全及维护 Safety and Maintenance

- 高可靠及安全性
  High reliability and safety
- 操作安全
  Safe operation
- 联锁系统及监控
  Interlock system and monitoring
- 3-工位隔离开关与断路器互相联锁
  Three-position switch mechanically interlocked with circuit breaker
- 断路器与3-工位隔离开关配合实现接地功能
  Circuit breaker function accompanied by earthing function in combination with a three position switch
- 操作机构密封于密闭气室外
  Operating mechanism to be accessed from outside of enclosure.
- 各隔室相互独立
  Independent compartments
- 用于泄压的通道
  Duct for pressure relief
- 内部的SF_6绝缘气体阻止了火源以及氧化
  Inert SF_6 insulating gas prevents fire in the system and contact to oxidation.
- 利用弹簧储能机构储能，断路器能够进行手动合闸
  Safe manual closing of energy storage circuit breaker with spring charge mechanism.

自动控制 Automation

HIMAP-BC控制保护单元具有以下优点：
Bay control and protection unit HIMAP-BC provides the benefits of the following:

- 经济性好
  Economic advantage
- 采用最新技术
  Up-to-date technology
- 高可靠性和实用性
  Reliability and availability
- 符合国际标准
  International standard
- 灵活性好
  Flexibility
- 实践性强
  Experience sharing
- 操作安装方便
  Easy operation and mounting
- 界面操作简单
  Simple interface and application

安全隔室 Safe Compartment

该单元被分割成5个单独的隔室
This unit is divided into five completely separate areas.

- 母线室
  Bus compartment
- 断路器室
  Circuit breaker compartment
- 电缆室
  Cable compartment
- 低压室
  Low voltage compartment
- 泄压通道
  Gas duct

HMGS

应用数据
Application Data

工业应用 Applicable Industry

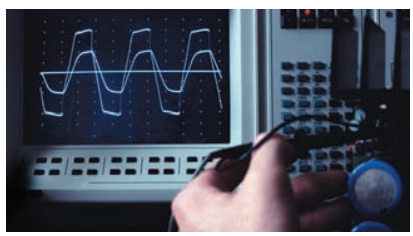
IEC(国际电工委员会)
IEC (International Electrotechnical Commission)

IEC 62271-200	《额定电压1kV~52kV交流金属封闭开关设备及控制设备》 A.C.metal enclosed switchgear and control gear for rated voltage from 1 kV and up to 52 kV
IEC 62271-100	《交流高压断路器》 High voltage alternating current circuit breakers
IEC 62271-102	《交流高压隔离开关和接地开关》 High voltage alternating current disconnectors and earthing switches
IEC 62271-1	《高压开关设备及控制设备标准的共用技术条件》 Common specifications for high voltage switchgear and controlgear standards
GB/T 11022-1999	《高压开关设备和控制设备标准的共用技术要求》蟆 Common specifications for high voltage switchgear and controlgear standards
GB 3906-2006	《3~35kV交流金属封闭开关设备》 A.C. Metal-endosed Switchgear for mted voltages of 3~35kV
GB 1984-2003	《交流高压断路器》 High voltage alternating current circuit breakers

生产检验 Production Tests

- 确保品质如一
  Ensuring the quality and uniformity of workmanship.
- 满足标准及顾客要求
  Meet design specification of customer and standards.





设计/检验 Design / Proof Tests

HMGS满足GB、IEC标准
HMGS meets applicable GB、IEC standards.

设计标准规定，所有的型式试验必须符合标准的规定。
The design criteria dictate that all performance tests meet the requirements of the standards.

基本的GB、IEC检验包括短路试验，耐压试验，回路电阻测量，机械寿命，温升试验，环境条件试验。
The basic GB、IEC test series include short circuit, BIL, dielectric continuous current, mechanical life, thermal and environmental conditions.

HMGS由韩国电工委员会(KERI)认证，同时得到了西高所的认证。
HMGS is certified by Korea Electrotechnology Research Institute(KERI), and Xi'an High Voltage Institute.

技术参数
Technical Data

技术参数 HMGS-G10/G20/G80/G90 Technical Dat a

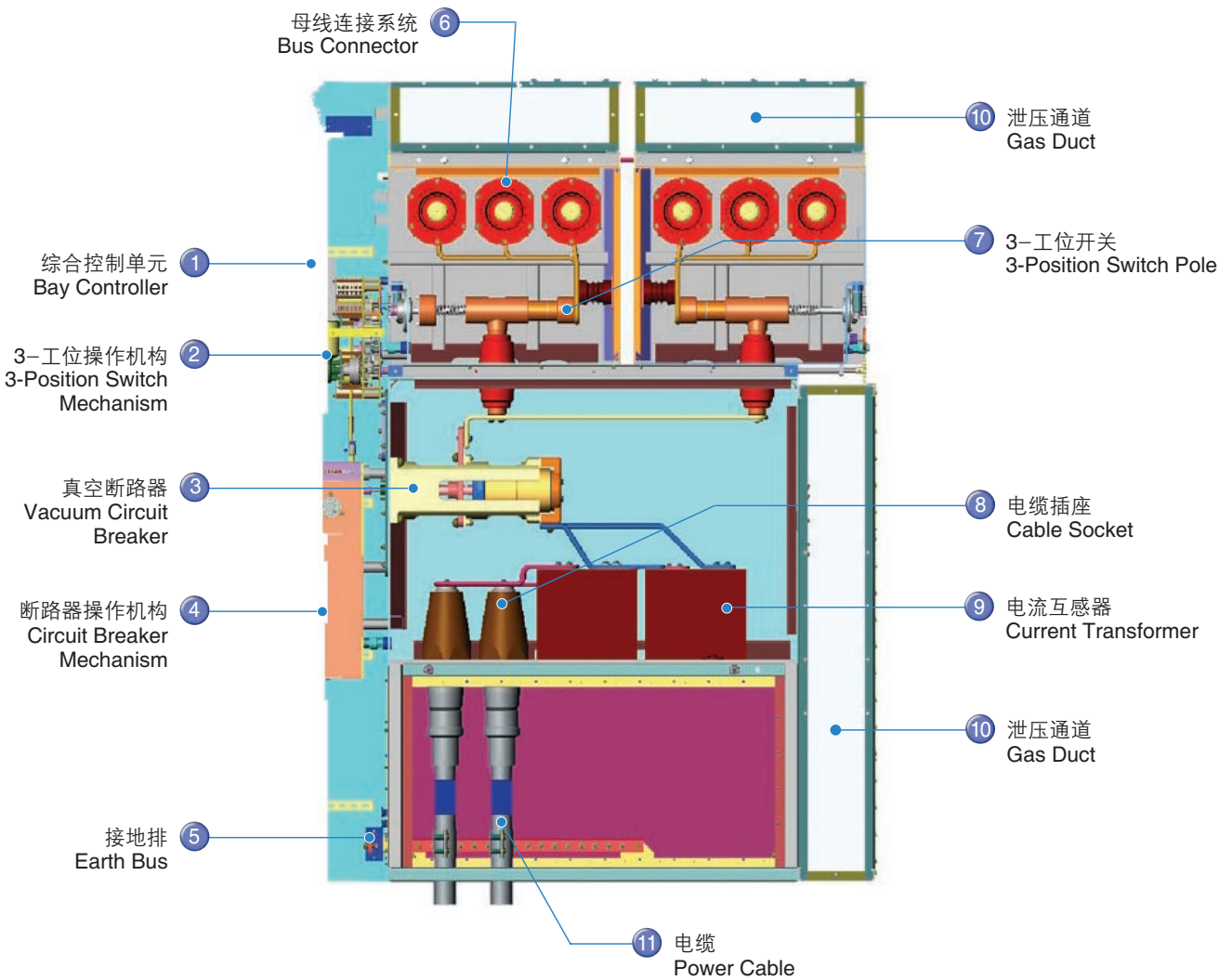
型号 Designation of type		HMGS-G10	HMGS-G20	HMGS-G80	HMGS-G90
额定电压 Rated voltage	kV	24(25.8)	40.5	40.5	27.5
最高运行电压 Maximum operating voltage	kV	24(25.8)	40.5	40.5	27.5
额定工频耐压 Rated power frequency withstand voltage	kV	50[1)]	95	95	95
额定雷电冲击电压 Rated lightning impulse withstand voltage	kV	125	185	185	185
最低功能压力绝对值20℃ All voltage values apply for an insulating gas pressure, absolute, 20℃	kPa	110	110	110	110
额定频率 Rated frequency	Hz	50/60	50/60	50/60	50/60
额定母线电流 Rated busbar current	A	up to 2000[1)]	up to 1250[1)]	up to 2500[1)]	up to 2500[1)]
额定馈线电流 Rated feeder current	A	630/1250/2000[1)]	630/1250[1)]	630/1250/2500[1)]	630/1600/2500[1)]
额定峰值耐受电流 Rated peak withstand current	kA	63	80	80	80
额定短时耐受电流 4s, Rated short time current 4 seconds	kA	25	31.5	31.5	31.5
断路器额定短路开断电流 Rated short circuit breaking current of circuit breaker	kA	25	31.5	31.5	31.5
断路器额定短路关合电流 Rated short circuit making current of circuit breaker	kA	63	80	80	80
额定操作顺序 Rated operating sequence		O - 0.3s - CO - 3min - CO[2)]			
合闸时间 Closing time	ms	75	60±5	60±5	60±5
分闸时间 Opening time	ms	60	40±5	40±5	40±5
绝缘气体 Insulating gas		SF_6[3)]	SF_6[3)]	SF_6[3)]	SF_6[3)]
额定充气压力，绝对值20℃ Rated filling pressure, absolute, 20℃	kPa	130	130	130	130
最低操作压力，绝对值20℃ Minimum operating pressure, absolute, 20℃	kPa	120	120	120	120
辅助回路电压 Rated data: Auxiliary voltage	V	220DC 110 / 125DC[4)]			
防护等级 Degree of protection (IEC 60529, DIN VDE 0470) : 高压 High voltage live parts 低压 Low voltage compartment		IP 65 IP 4X[5)]	IP 65 IP 4X[5)]	IP 65 IP 4X[5)]	IP 65 IP 4X[5)]
环境温度 Ambient temperature :[6)] 最高值 Maximum value 最低值 Minimum value	 ℃ ℃	 +40 -15	 +40 -15	 +40 -15	 +40 -15
海拔高度 Altitude for erection above sea level	m	可适应高海拔要求（订货时需注明海拔高度）			
外形尺寸 Dimensions : 高 Height 深 Depth 宽 Width	 mm mm mm	 2300 1720 600 / 650	 2300 1445 600/800/1000	 2400(2600)[7)] 1760 600/800	 2400(2600)[7)] 1760 600/800

1) 根据国家标准要求的更高的值
Higher values as per international standards on request
2) 可按客户要求提供其它顺序
Other sequences on request
3) 绝缘气体：六氟化硫
Insulating gas : sulphur hexafluoride
4) 可按客户要求提供其它辅助电压
Other auxiliary voltages on request
5) 可按客户要求提供更高等级
Higher values on request
6) 可按客户要求适应特殊环境
Special service conditions on request
7) 2600mm是电缆室高度为800mm以上
2600mm for above 800mm of the cable connection compartment

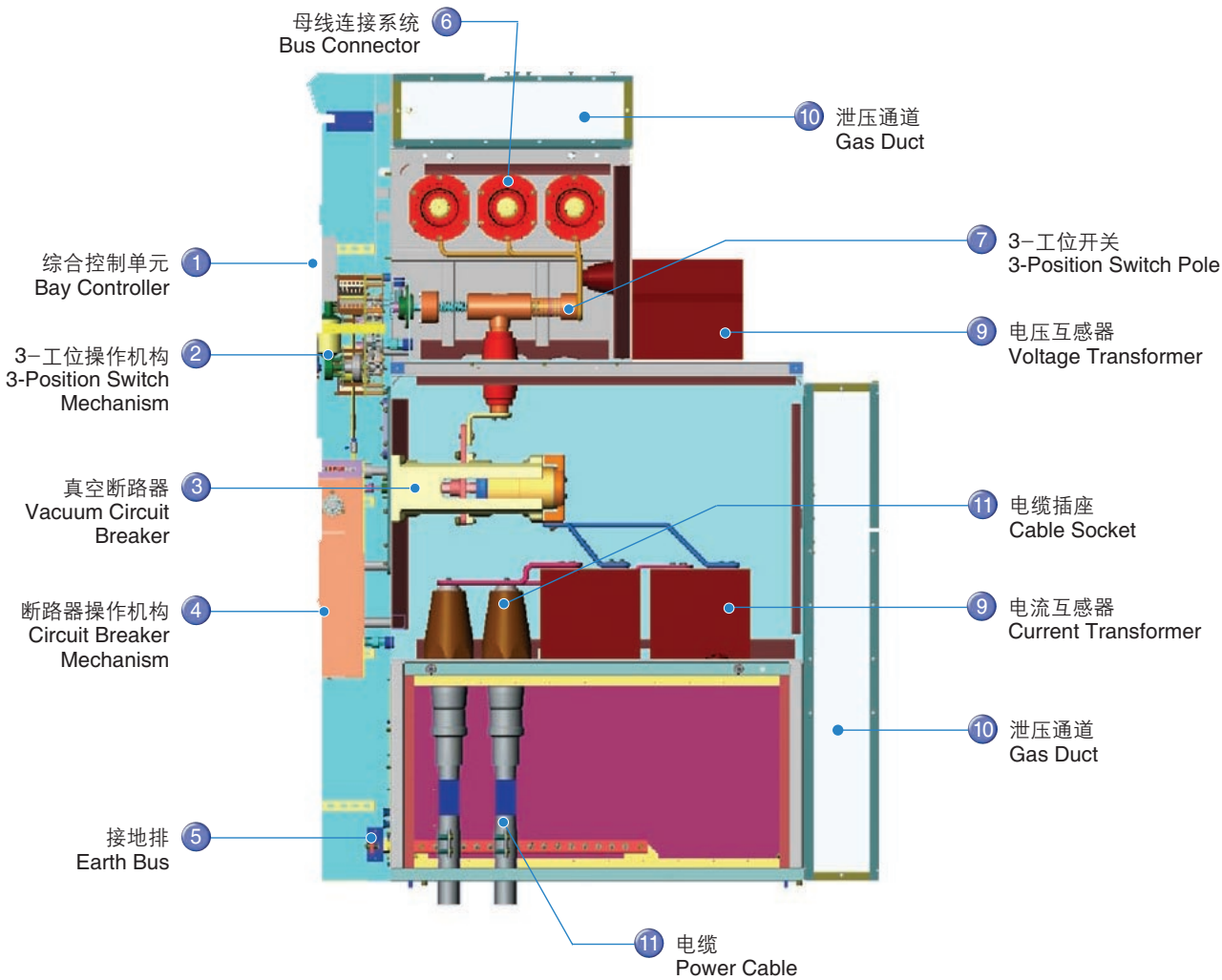
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组合方案
Combination Scheme

HMGS-G80 柜体剖视图 Type HMGS-G80 Switchgear Section View

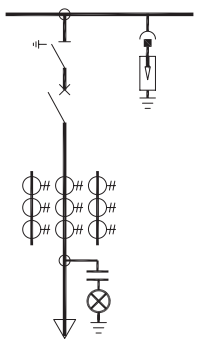
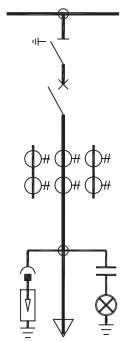
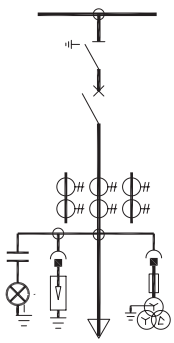
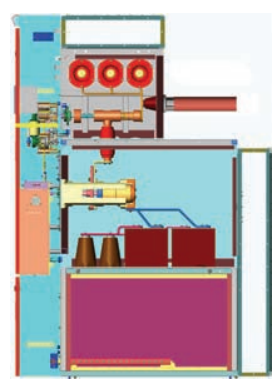
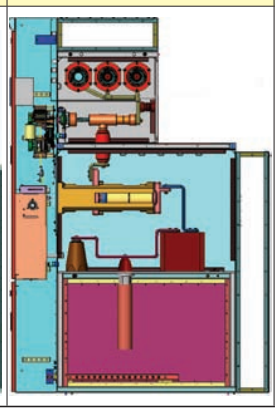
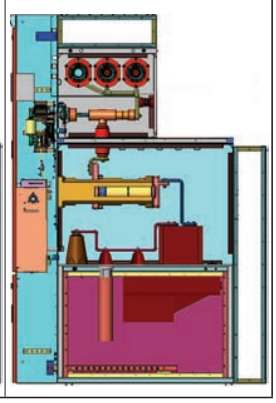


HMGS-G80 柜体剖视图 Type HMGS-G80 Switchgear Section View



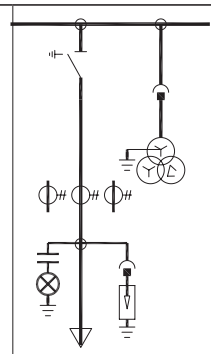
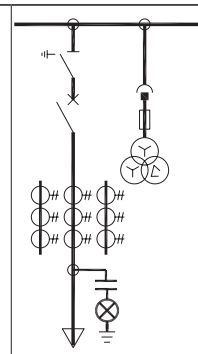
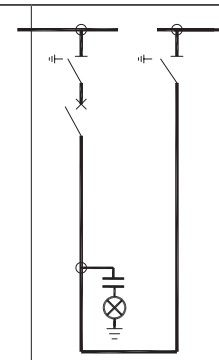
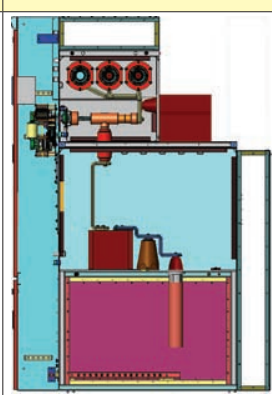
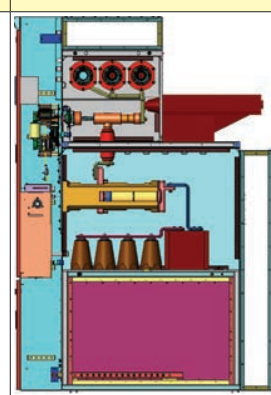
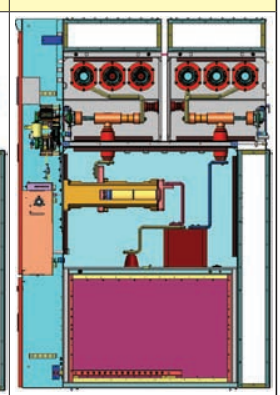
HMGS

组合方案
Combination Scheme

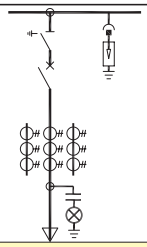
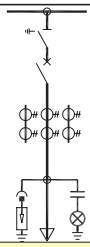
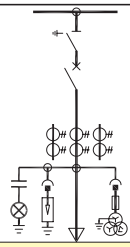
HMGS—G80 典型一次方案 HMGS-G80 Typical Primary Scheme						
柜型 Cabine tlype				馈线柜 Feeder Cabinet	主变 MainIransformer	进线（一） Incomer I
主要设备 Main Equipment	断路器 Circuit breaker	台 Unit		1	1	1
	三位置隔离开关 Three position Disconnecting Switch	台 Unit		1	1	1
	电流互感器 Current Transformer (CT)	台 Unit	穿芯式 Through-core type			
			支柱式 Post type	3	3	3
	电压互感器 Voltage Transformer (VT)	台 Unit				3
	避雷器 Lightning Arrester	台 Unit		3	3	3
	带电显示装置 Live Display Device	套 Set		1	1	1
	保护装置 Protection Device	套 Set		1	1	1
	微机消谐装置 Microcomputer Harmonic Elimination Device	台 Unit		1	1	1
	额定电流 Rated Current	（A）		1250/2000	1250/2000/2500	1250/2000/2500
	开断电流 Breaking Current	（kA）		31.5	31.5	31.5
柜体尺寸 mm（宽 x 深 x 高） Cabinet dimensions mm（Width × Depth × Height）				600/800×1760×2400	600/800×1760×2400	600/800×1760×2400
柜体结构特点 Cabinet Structure Features						

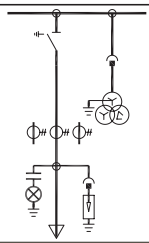
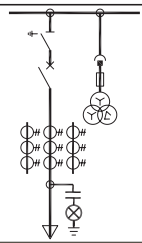
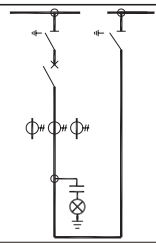
HMGS–G80 系列气体绝缘金属封闭开关柜可实现多种方案组合，适用单、双母线系统可采用插接技术将电压互感器或避雷器组合到进线柜或馈线柜中，大大减少了空间尺寸。

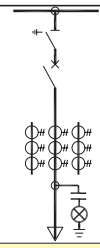
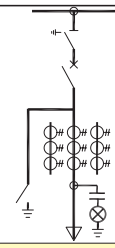
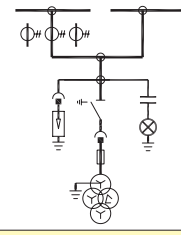
HMGS-G80 series gas insulated metal-clad switchgear applicable to single or double bus system can carry out the combination of various schemes. The application of plug-in technology which makes voltage transformer and surge arrester arranged in incoming panel or surge arrester arranged in feeder panel. That could save the space sharply.

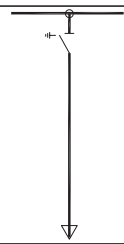
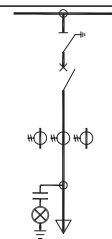
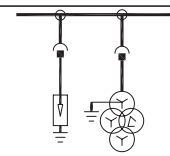
HMGS–G80 典型一次方案 HMGS-G80 Typical Primary Scheme						
柜型 Cabine tlype				隔离及计量 Isolation and Metering	进线（二） Incoming Line(No.2)	母联柜 Bus Coupler Cabinet
主要设备 Main Equipment	断路器 Circuit breaker	台 Unit			1	1
	三位置隔离开关 Three position Disconnecting Switch	台 Unit		1	1	2
	电流互感器 Current Transformer (CT)	台 Unit	穿芯式 Through-core type			
			支柱式 Post type	3	3	3
	电压互感器 Voltage Transformer (VT)	台 Unit		3	3	
	避雷器 Lightning Arrester	台 Unit		3		
	带电显示装置 Live Display Device	套 Set		1	1	1
	保护装置 Protection Device	套 Set		1	1	1
	微机消谐装置 Microcomputer Harmonic Elimination Device	台 Unit		1	1	1
	额定电流 Rated Current	（A）		1250/2000/2500	1250/2000/2500	1250/2000/2500
	开断电流 Breaking Current	（kA）		31.5	31.5	31.5
柜体尺寸 mm（宽 x 深 x 高） Cabinet dimensions mm（Width × Depth × Height）				600/800×1760×2400	600/800×1760×2400	800×1760×2400
柜体结构特点 Cabinet Structure Features						

HMGS

HMGS—G80 参考一次方案 HMGS-G80 Typical Primary Scheme						
柜型 Cabinet Type				馈线柜 Feeder Cabinet	主变 MainIransformer	进线（一）Incomer I
主要设备 Main Equipment	断路器 Circuit breaker	台 Unit		1	1	1
	三位置隔离开关 Three position Disconnecting Switch	台 Unit		1	1	1
	电流互感器 Current Transformer (CT)	台 Unit	穿芯式 Through-core type			
			支柱式 Post type	3	3	3
	电压互感器 Voltage Transformer (VT)	台 Unit				3
	避雷器 Lightning Arrester	台 Unit		3	3	3
	带电显示装置 Live Display Device	套 Set		1	1	1
	保护装置 Protection Device	套 Set		1	1	1
	微机消谐装置 Microcomputer Harmonic Elimination Device	台 Unit		1		1
	额定电流 Rated Current	（A）		1250/2000	1250/2000/2500	1250/2000/2500
	开断电流 Breaking Current	（kA）		31.5	31.5	31.5
柜体尺寸 mm（宽 x 深 x 高） Cabinet dimensions mm（Width × Depth × Height）				600/800×1760×2400	600/800×1760×2400	600/800×1760×2400

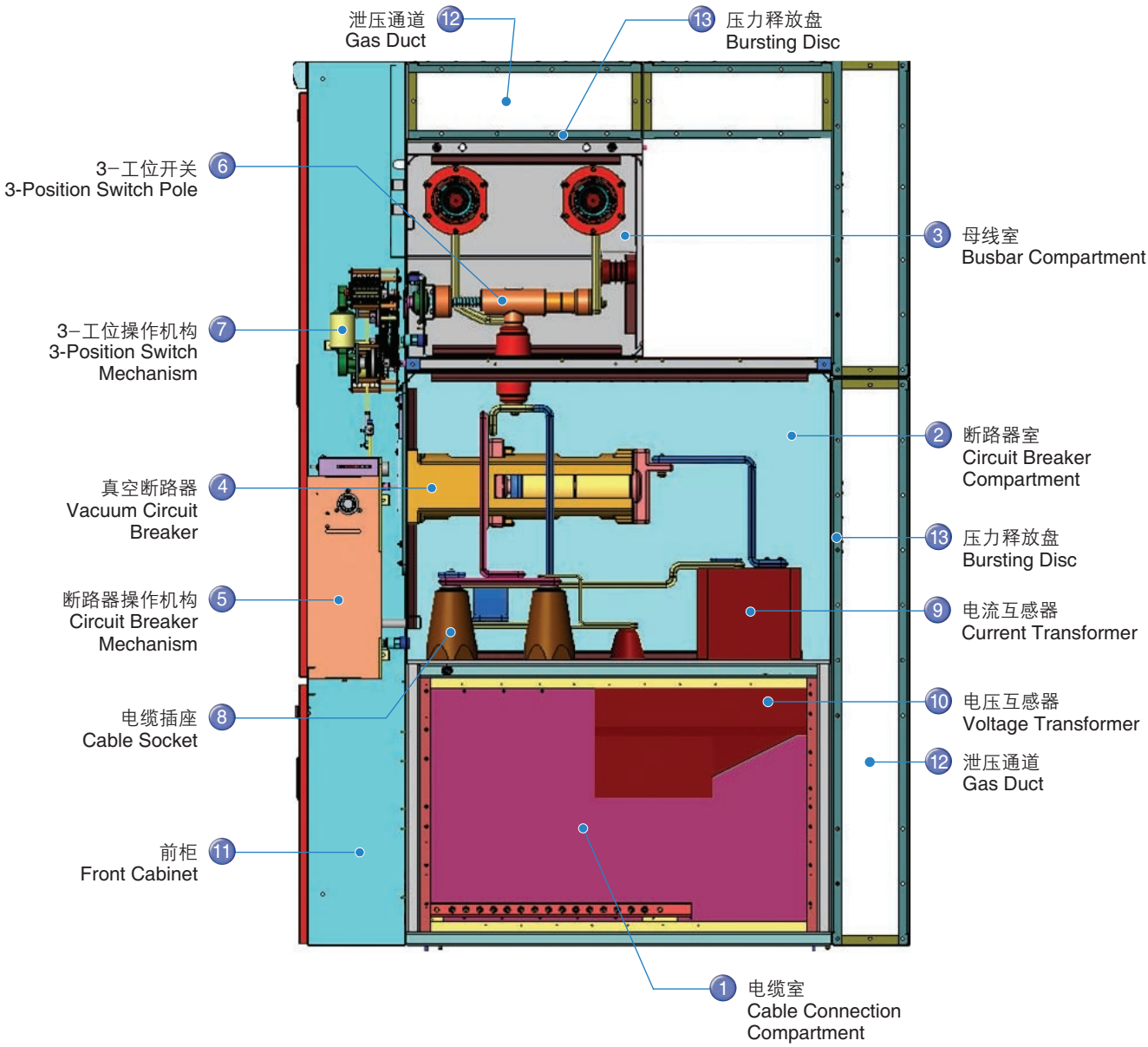
HMGS—G80 参考一次方案 HMGS-G80 Typical Primary Scheme						
柜型 Cabine tlype				隔离及计量 Isolation and Metering	进线（二） Incoming Line(No.2)	母联柜 Bus Coupler Cabinet
主要设备 Main Equipment	断路器 Circuit breaker	台 Unit			1	1
	三位置隔离开关 Three position Disconnecting Switch	台 Unit		1	1	2
	电流互感器 Current Transformer (CT)	台 Unit	穿芯式 Through-core type			
			支柱式 Post type	3	3	3
	电压互感器 Voltage Transformer (VT)	台 Unit		3	3	
	避雷器 Lightning Arrester	台 Unit		3		
	带电显示装置 Live Display Device	套 Set		1	1	1
	保护装置 Protection Device	套 Set		1	1	1
	微机消谐装置 Microcomputer Harmonic Elimination Device	台 Unit		1	1	1
	额定电流 Rated Current	（A）		1250/2000/2500	1250/2000/2500	1250/2000/2500
	开断电流 Breaking Current	（kA）		31.5	31.5	31.5
柜体尺寸 mm（宽 x 深 x 高） Cabinet dimensions mm（Width × Depth × Height）				600/800×1760×2400	600/800×1760×2400	800×1760×2400

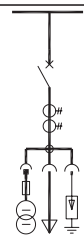
HMGS–G80 参考一次方案 HMGS-G80 Typical Primary Scheme						
柜型 Cabinet Type				进线（三）Incoming Line (No.3)	进线（四）Incoming Line (No.4)	计量 Metering
主要设备 Main Equipment	断路器 Circuit breaker	台 Unit		1	1	
	接地开关 Earthing switch	台 Unit			1	
	三位置隔离开关 Three position Disconnecting Switch	台 Unit		1	1	1
	电流互感器 Current Transformer (CT)	台 Unit	穿芯式 Through-core type			
			支柱式 Post type	3	3	3
	电压互感器 Voltage Transformer (VT)	台 Unit				3
	避雷器 Lightning Arrester	台 Unit				3
	带电显示装置 Live Display Device	套 Set		1	1	1
	保护装置 Protection Device	套 Set		1	1	
	微机消谐装置 Microcomputer Harmonic Elimination Device	台 Unit		1	1	1
	额定电流 Rated Current	（A）		1250/2000/2500	1250/2000/2500	1250/2000/2500
	开断电流 Breaking Current	（kA）		31.5	31.5	31.5
柜体尺寸 mm（宽 x 深 x 高） Cabinet dimensions mm（Width × Depth × Height）				600/800×1760×2400	600/800×1760×2400	800×1760×2400

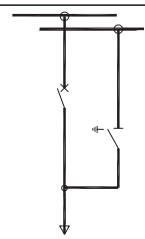
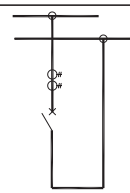
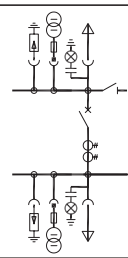
HMGS–G80 参考一次方案 HMGS-G80 Typical Primary Scheme						
柜型 Cabine tlype				隔离 Isolation	分断 Breaking	压互及避雷器 VT & Lightning Arrester
主要设备 Main Equipment	断路器 Circuit breaker	台 Unit			1	
	三位置隔离开关 Three position Disconnecting Switch	台 Unit		1	1	
	电流互感器 Current Transformer (CT)	台 Unit	穿芯式 Through-core type			
			支柱式 Post type		3	
	电压互感器 Voltage Transformer (VT)	台 Unit				3
	避雷器 Lightning Arrester	台 Unit				3
	带电显示装置 Live Display Device	套 Set			1	
	保护装置 Protection Device	套 Set		1	1	1
	微机消谐装置 Microcomputer Harmonic Elimination Device	台 Unit		1	1	1
	额定电流 Rated Current	（A）		1250/2000/2500	1250/2000/2500	1250/2000/2500
	开断电流 Breaking Current	（kA）		31.5	31.5	31.5
柜体尺寸 mm（宽 x 深 x 高） Cabinet dimensions mm（Width × Depth × Height）				600/800×1760×2400	600/800×1760×2400	800×1760×2400

组合方案
Combination Scheme

HMGS-G90 分区所用柜体剖视图 Type HMGS-G90 Switchgear Section View



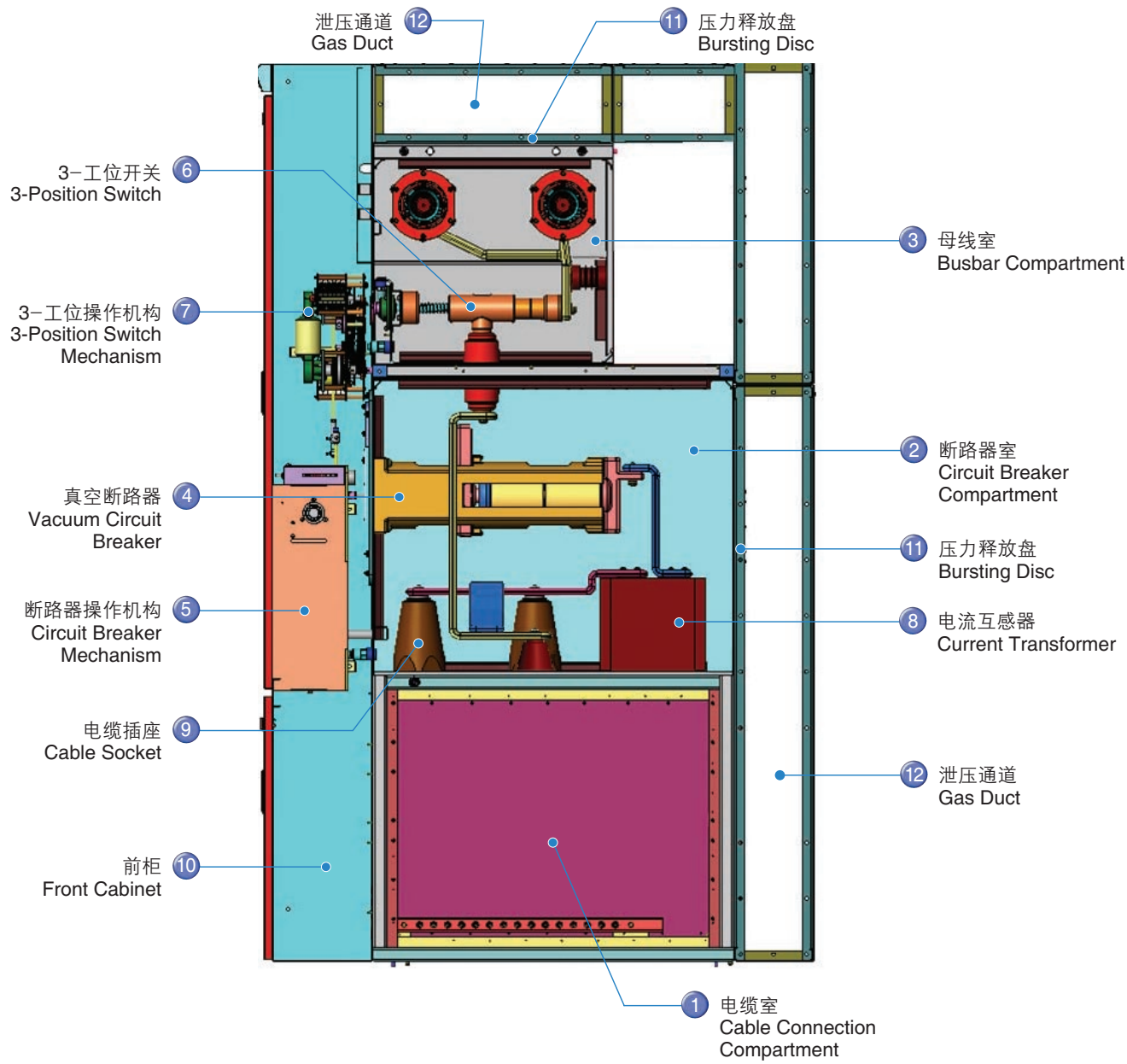
HMGS–G90 分区所参考一次方案 HMGS-G90 Typical Primary Scheme					
柜型 Cabinet Type				进线 Incoming Line	自用变 Service Transformer
主要设备 Main Equipment	断路器 Circuit breaker	台 Unit		1	
	三位置隔离开关 Three position Disconnecting Switch	台 Unit			1
	变压器 Transformer	台 Unit			1
	电流互感器 Current Transformer (CT)	台 Unit	支柱式 Post type	1	
	电压互感器 Voltage Transformer (VT)	台 Unit		1	
	避雷器 Lightning Arrester	台 Unit		1	
	带电显示装置 Live Display Device	套 Set			
	保护装置 Protection Device	套 Set		1	1
	额定电流 Rated Current	（A）		1250/1600/2000/2500	1250/1600/2000/2500
	开断电流 Breaking Current	（kA）		31.5	31.5
柜体尺寸 mm（宽 x 深 x 高） Cabinet dimensions mm（Width × Depth × Height）				600/800×1760×2400	600/800×1760×2400

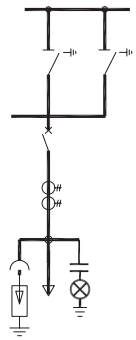
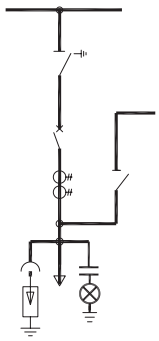
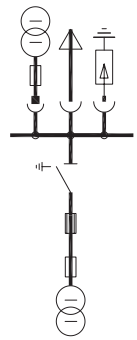
HMGS–G90 分区所参考一次方案 HMGS-G90 Typical Primary Scheme						
柜型 Cabinet Type				馈线（一） Feeder (No.1)	馈线（二） Feeder (No.2)	进线（二） Incoming line (No.2)
主要设备 Main Equipment	断路器 Circuit breaker	台 Unit		1	1	1
	三位置隔离开关 Three position Disconnecting Switch	台 Unit		1		1
	变压器 Transformer	台 Unit				
	电流互感器 Current Transformer (CT)	台 Unit	支柱式 Post type		1	1
	电压互感器 Voltage Transformer (VT)	台 Unit				2
	避雷器 Lightning Arrester	台 Unit				2
	带电显示装置 Live Display Device	套 Set		1		2
	保护装置 Protection Device	套 Set			1	1
	额定电流 Rated Current	（A）		1250/1600/2000/2500	1250/1600/2000/2500	1250/1600/2000/2500
	开断电流 Breaking Current	（kA）		31.5	31.5	31.5
柜体尺寸 mm（宽 x 深 x 高） Cabinet dimensions mm（Width × Depth × Height）				600/800×1760×2400	600/800×1760×2400	600/800×1760×2400

HMGS

组合方案
Combination Scheme

HMGS-G90 变电所用柜体剖视图 Type HMGS-G90 Switchgear Section View



HMGS–G90 变电所参考一次方案 HMGS-G90 Typical Primary Scheme						
柜型 Cabinet Type				进线 Incoming Line	出线 Outgoing Line	变压器 Transformer
主要设备 Main Equipment	断路器 Circuit breaker	台 Unit		1	1	
	三位置隔离开关 Three position Disconnecting Switch	台 Unit		2	2	1
	变压器 Transformer	台 Unit				1
	电流互感器 Current Transformer (CT)	台 Unit	支柱式 Post type	1	1	
	电压互感器 Voltage Transformer (VT)	台 Unit				1
	避雷器 Lightning Arrester	台 Unit		1	1	1
	带电显示装置 Live Display Device	套 Set		1	1	
	保护装置 Protection Device	套 Set		1	1	1
	额定电流 Rated Current	（A）		1250/1600/2000/2500	1250/1600/2000/2500	1250/1600/2000/2500
	开断电流 Breaking Current	（kA）		31.5	31.5	31.5
柜体尺寸 mm（宽 x 深 x 高） Cabinet dimensions mm（Width × Depth × Height）				600/800×1500×2400	600/800×1500×2400	600/800×1500×2400

主要元器件
Main Components

避雷器 Lightning Arrester



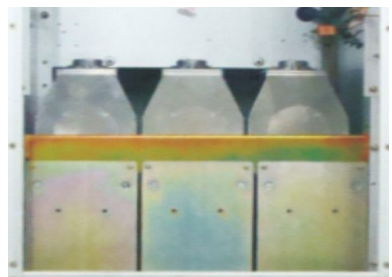
- 符合 GB 和 IEC 的标准。
- 插拔式金属外壳结构，外壳安全接地可触摸。
- 安装于气箱的标准插孔上，插拔式结构便于维护、更换。
- 可以接放电计数器和在线泄漏电流监测器。
- 根据功能要求，可以安装在线路侧或母线侧，也可以安装于独立的母线设备柜。

- Complies with GB and IEC standards.
- Plug-in metal-enclosed structure, safely grounded and touchable enclosure.
- Mounted on standard sockets of the gas tank; plug-in design facilitates maintenance and replacement.
- Can be equipped with discharge counter and on-line leakage current monitor.
- Can be installed on line side or bus side per functional requirements, or in a separate busway cabinet.

电压互感器 Voltage Transformer (VT)

- 满足 0.2、0.5、3P 等不同电压变比和次级数精度等要求。
- 采用封闭插拔式结构，所有高压电场限制在固体绝缘介质中，外壳为接地可触摸。
- 安装于气箱的插孔上，插拔连接，便于维护更换。
- 一次熔丝内置保护，更适合中国电网运行方式。
- 根据功能要求，可以安装在线路侧或母线侧，也可以安装于独立的母线设备柜。





- It meets the requirements of various voltage ratios and secondary accuracy classes such as 0.2, 0.5 and 3P.
- Adopts a sealed plug-in structure; all live parts are enclosed in solid insulation medium, and the enclosure is safely grounded and touchable.
- Mounted on sockets of the gas tank with plug-in connection, easy for maintenance and replacement.
- Built-in primary fuse protection, more suitable for the operation mode of Chinese power grids.
- Can be installed on the line side or bus side according to functional requirements, or in a separate busway cabinet.

密度表 Density Gauge



- 每个气室都有独立的密度表。
- 实时监测气箱内气体压力。
- 带温度补偿功能。
- 带有高、低压力接点输出。

- Each gas compartment is equipped with an independent density gauge.
- Monitors gas pressure inside the gas tank in real time.
- Features temperature compensation.
- Equipped with high and low pressure contact outputs.

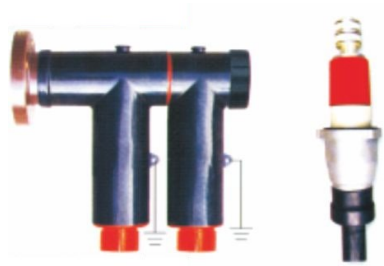
带电显示器 Live Line Indicator



- 根据气箱内电容传感器匹配显示装置。
- 实时监测电缆侧和母线侧的带电情况。
- 可带电压接点输出，实现电气闭锁。
- 专门的插孔，可实现核相。

- Matched with indicating device according to capacitive sensors inside the gas tank.
- Monitors the live status of cable side and busway side in real time.
- Equipped with voltage contact output for interlocking.
- Dedicated socket for phase verification.

一次连接接口 Primary Connection



- 符合欧标的外锥和内锥电缆接口。
- 根据电压等级和电缆截面，可选择不同的规格。
- 也可用专有的架空进线连接方式，通过绝缘母线将外界电源引入。
- 无论电缆还是绝缘母线，所有连接头都通过界面绝缘将高压电场封闭在固体的绝缘介质中，安全可靠。

- Conforms to European standard female and male cable interfaces.
- Different specifications are available according to voltage level and neutral cross-section.
- Proprietary overhead incoming connection is also available, introducing external power via insulated busway.
- All connectors, whether for cables or insulated busway, encapsulate high-voltage.

母线连接 Busway Connection



- 专门的母线连接系统设计。
- 根据电压电流等级分有不同的规格。
- 独特的设计，便于设备的安装和维护。
- 优化的电场设计，保证了非常大的绝缘裕度。

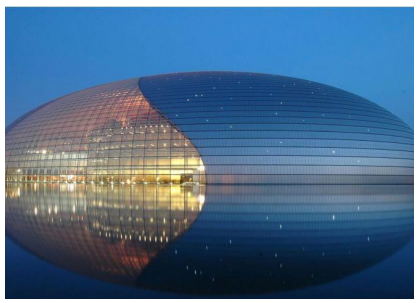
- Special design forbusway connection.
- Different specifications are available according to voltage and current ratings.
- Unique design facilitates equipment installation and maintenance.
- Optimized electric field design ensures a large insulation margin.

HMGS

应用案例
Application Cases



地铁
Subway



大剧院
Grand Theater



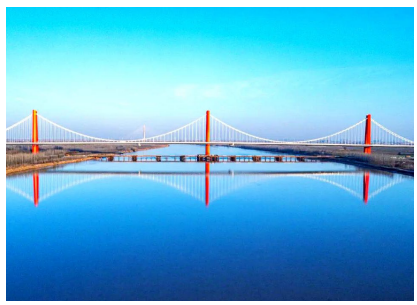
城市轨道
urban rail



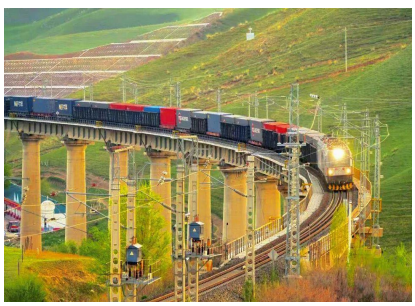
变电站
Substation



建筑
Building



大桥
Bridge



铁路
Railway



城市交通
urban traffic



城市交通
urban traffic



石化
Petrify



石化
Petrify



港口
Port

说明指南
Specification Guide

概述 General

HMGS SF_6气体绝缘金属铠装开关柜，适用于单、双母线系统电压等级达40.5kV，3相3线，50/60Hz系统。
SF_6 Gas Insulated Metal-clad switchgear, HMGS-G20 designed up to 40.5kV 3-phase 3 wire 50/60 Hz system.

额定电压达40.5kV，断路器可水平或垂直安装。
The switchgear shall be rated up to 40.5kV and has horizontally or Vertically installed vacuum circuit breakers.

开关柜包括真空断路器，仪表，继电器等。
The switchgear includes vacuum circuit breakers, meters, relays, etc.

开关柜由西安高压电器研究所认证。
The switchgear is certified by Xi'an High Voltage Institute.

订货指南 Specification Guide

备注：喷涂颜色请在订货时注明。
Note : Color denoted information to be provided to the purchaser regarding :

1. 备品备件的选择
   Choice of alternates
2. 附加的可选择的特征
   Addition of optional features
3. 详细的资料
   Specific information

固定结构 Stationary Structure

开关柜由完全独立的各功能隔室拼装而成，其中母线气室和断路器气室采用不锈钢焊接而成。
The switchgear consists of bus compartments and circuit breaker compartment that are hermetically pressure sealed with SF_6 gas.

- 不锈钢板密封焊接
  Welded stainless steel enclosure
- 模块化设计
  Modular design
- 具有压力释放通道
  Duct for pressure relief
- 柜与柜连接采用母排插接系统，现场拼柜作业，无需气体的回收或补充
  Panels coupled by plug in bus connectors
- 采用锥形电缆插接系统
  Cable connection inner cone plug in system

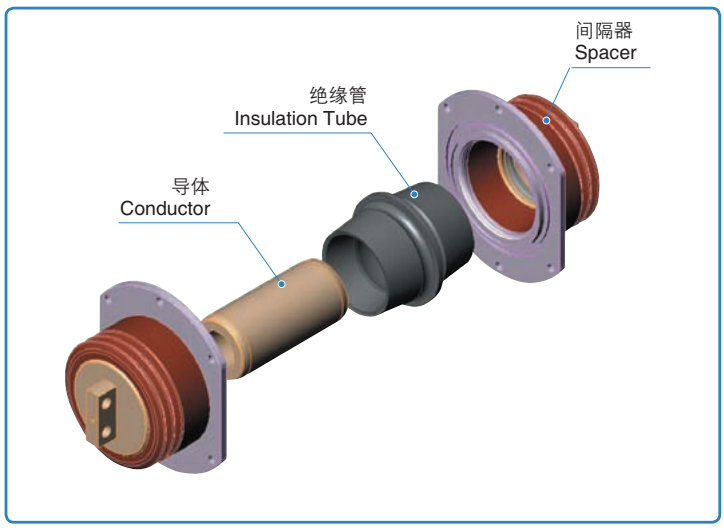
断路器室 Circuit Breaker Compartment

断路器(CB)室包含：馈线排(分支母排)，真空灭弧室(VI)，电流互感器(CT)以及电缆插座。
Circuit breaker(CB) compartment contains feeder busbars(tie off conductors), Vacuum Interrupter(VI), Current Transformer(CT) and cable sockets.

断路器室充有SF_6气体，还有防止过气压的安全装置(泄压盘)。
CB compartment is filled with SF_6 gas and equipped with a safety device (bursting disc) activated by overpressure.

HMGS

母线连接 Bus-Bar Connector



柜与柜间的连接采用插接式连接方式。
Panels are connected electrically by the connecting set patented by HHI since 2001, via conductor covered space.

当现场开关柜拼柜时，不需进行任何充放气工作，使现场工作复杂程度降低，减少因人员原因造成的故障。
Each sealed flange has multiple contact points for easy-link on the sides of the panels to be linked.

运输 Delivery

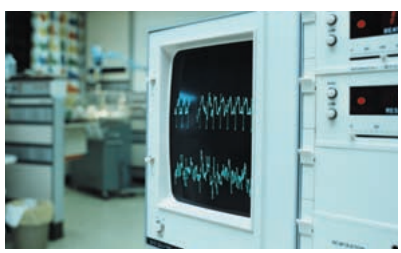
开关柜“HMGS”采用整柜或组柜发运，其中柜内气室已充额定气压的SF_6气体。
The switchgear ‘HMGS’ is delivered in panels filled with SF_6 gas at operating pressure.

开关柜在发运过程中可采用吊车及叉车操作。
Each panel of the switchgear is suitable for handling by a crane or forklift truck.

检查及维护 Inspection and Maintenance

开关柜“HMGS”气体在通常情况下无需补充。
The switchgear ‘HMGS’ is maintenance free inside of the gas compartment under normal service conditions.

检查项目包括外观检查及功能测试。
The inspection shall be carried out by visual inspection and predominant functional tests.







Optimus PRO

MEGA TECHNOLOGY (ZHENJIANG) CO.,LTD.

Add: No.36 Ganglong Road, Economic Development Zone,Yangzhong, JiangSu Province, China
Tel: +86-511-88136688 Fax:+86-511-88131655
E-mail: salesmegachina@optimus-busduct.com
http: //www.optimus-busbar.com

OPTIMUS TECHNOLOGY CO.,LTD.

Office: 6th Floor, No.805, Zhengde Road, Zuoying DistrictKaohsiung City, Taiwan
Tel: +886-7-3458385 Fax:+886-7-3421424
E-mail: vicara88@ms17.hinet.net
http: //www.vicara-trade.com

MEGA ENERGY(THAILAND)CO.,LTD.

Office:Building M5,NO.23/7 Ratbamrung Road,Tambon
Huai Pong Amphoe Mueang Rayong,Province Rayong 21150

OPTIMUS POWERTECH PRIVATE LIMITED(INDIA)

Office:Thriveni academy, Thriveni Nagar, Vadakkupattu village ,
Kanchipuram.Tamil Nadu.

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