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CDL8系列户内柜式气体绝缘开关设备(C-GIS)

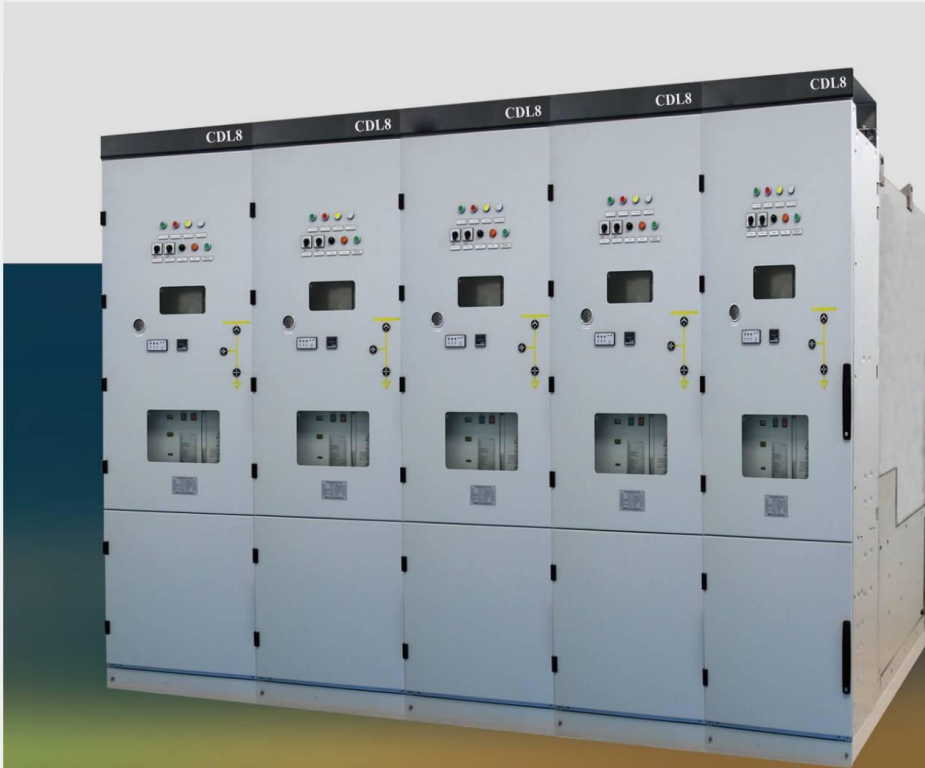
CDL8 Series Indoor Cubicle-type Gas Insulated Switchgear(C-GIS)
12kV, 2000、2500、3150A .25kA



上海德力西集团有限公司
SHANGHAI DELIXI GROUP CO., LTD

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CDL8系列

Indoor Cabinet Type Gas Insulated
Switchgear (C-GIS)



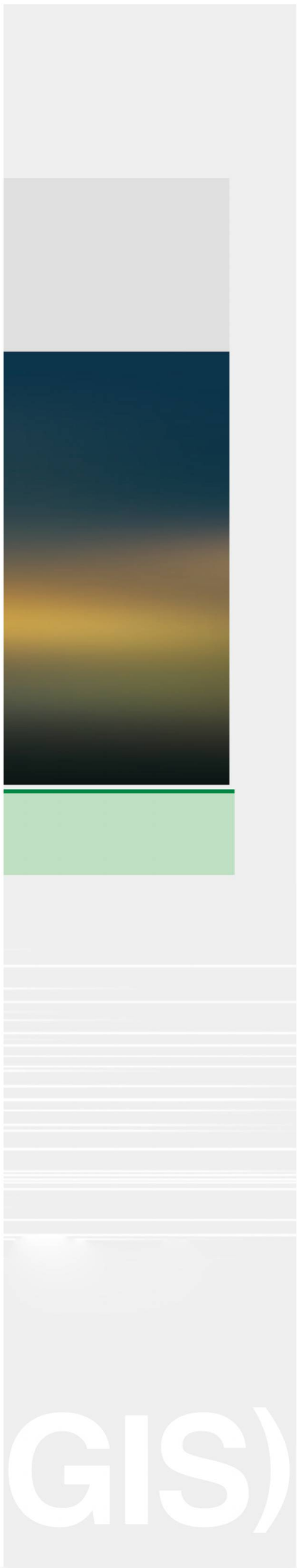
CDL8系列户内柜式气体绝缘开关设备(C-GIS)是基于国际先进的固体绝缘技术、气体绝缘技术、真空开断技术、模块化插接技术并结合激光焊接技术、氦气检漏工艺的新一代产品。产品具有高可靠性、免维护、小型化等特点。

CDL8 series indoor cubicle-type gas insulated switchgear called as C-GIS, is a kind of product which accords to the international advanced technique. Such as solid insulated, gas insulated, VCB and modular plug board, Combining the new He leak-check. The product has high reliability, maintenance-free and miniaturization etc.

高可靠性
RELIABLE

免维护

NO NEED MAINTANENCE



GIS)

使用环境
Operation Conditions

技术特点
Technical Advantages

技术参数
Technical Data

结构示意图
Structure Sketch

主要元件
Main Components

特殊结构
Special Structure

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安装
Installation

订货须知
Ordering Information

3 技术参数

Technical Data

	单位 Unit	CDL8
额定电压 Rated voltage	kV	12
额定频率 Rated frequency	Hz	50
额定工频耐受电压(1min) Rated power frequency withstand voltage (1min)	kV	42/48
额定雷电冲击耐受电压 Rated lightning impulse withstand voltage	kV	75/85
主母线额定电流 Rated current of busbar	A	2000、2500、3150
分支母线额定电流 Rated current of tee-offs	A	2000、2500、3150
额定短时耐受电流(4s) Rated short time withstand current (4s)	kA	...25
额定峰值耐受电流 Rated peak withstand current	kA	...63
气体密封室防护等级 Gas-tight enclosure protection level		IP67
开关柜体防护等级 Switchgear protection level		IP42
绝缘气体 Insulating gas		SF ₆
额定工作压力(20°C表压) Rated operating pressure (at 20 °C, gauge)	Mpa	0.02
最低工作压力(20°C表压) Minimum operating pressure (at 20°C, gauge)	Mpa	0.00
外形尺寸(宽X深X高) Outline dimensions (W xD xH)	mm	500/800x(1400-1600) x (2100-2400)*

*注：额定电流>1250A时宽800mm。

Note: rated current more than 1250A width 800mm.

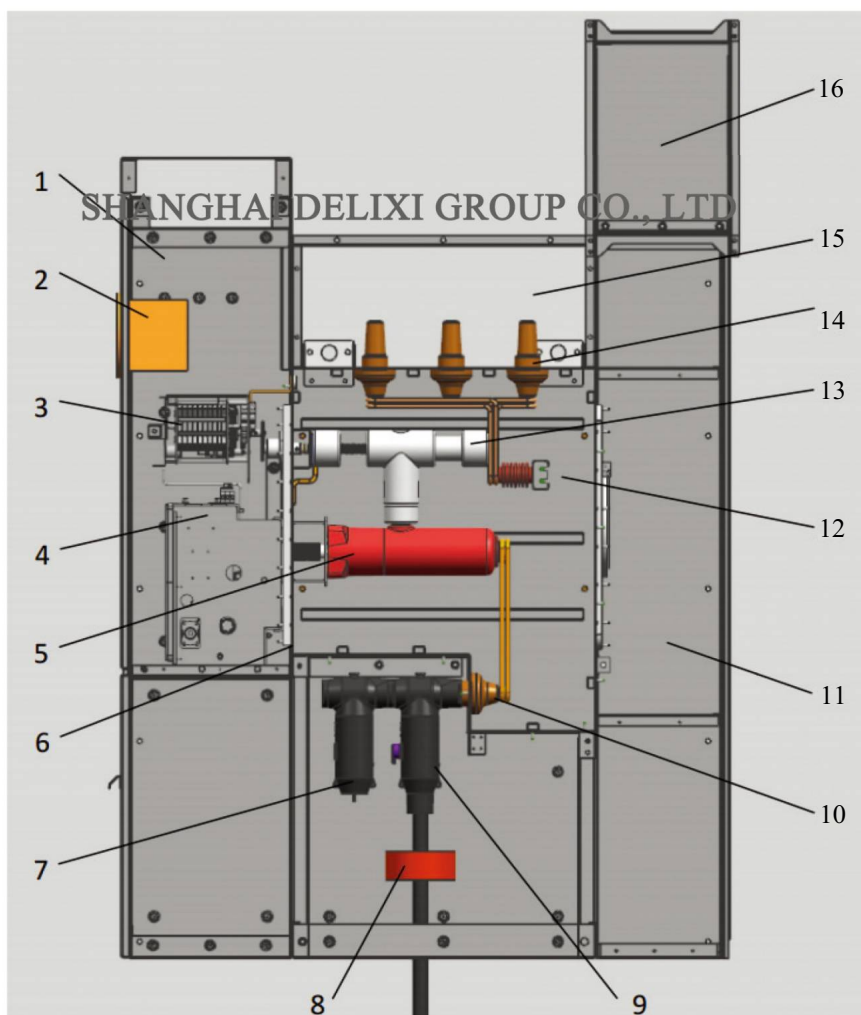
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结构示意图

Structure Sketch

12kV C-GIS 典型结构

12kV C-GIS typical structure



1-低压室
Low-voltage compartment

2.控制单元
Control unit

3.三工位隔离开关操作机构
Three-position disconnector operating mechanism

4.断路器操作机构
Circuit-breaker operating mechanism

5.断路器
Circuit-breaker

6.充气间隔
Gas tank

7.避雷器
Surge arrester

8.电流互感器（根据项目选择）
Current transformer

9.电缆插头
Cable terminal

10.出线套管
Cable bushing

11.压力释放通道I
Pressure relief duct 1

12.绝缘气体
Insulating gas

13.三工位开关
Three position disconnector

14.母线套管
Busbar bushing

15.母线室
Busbar compartment

16.压力释放通道II（选用）
Pressure relief duct 2

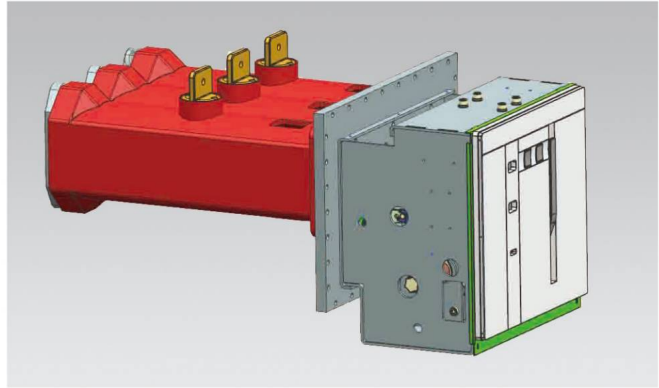
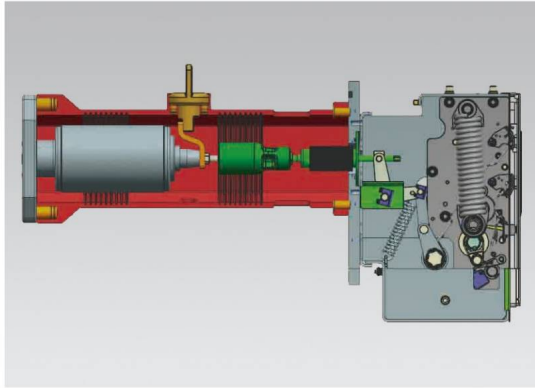
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主要元件

Main Components

真空断路器

Vacuum circuit-breaker



真空断路器特点 Vacuum circuit-breaker characteristics

■ 真空断路器的功能包括:

- 合、分额定电流
- 开断短路电流
- 与三工位开关配合进行接地操作

■ 断路器的三相极柱水平放置于气室内，与其它元件连接方便

■ 断路器的操动机构与极柱通过直动波纹管连接，传递动力

■ Vacuum circuit-breaker performs the following function:

- Opening and closing on rated current
- Short-circuit breaking operations
- Earthing function in conjunction with three-position switch

■ The circuit-breaker poles are installed horizontally in gas compartment easy connecting with other components

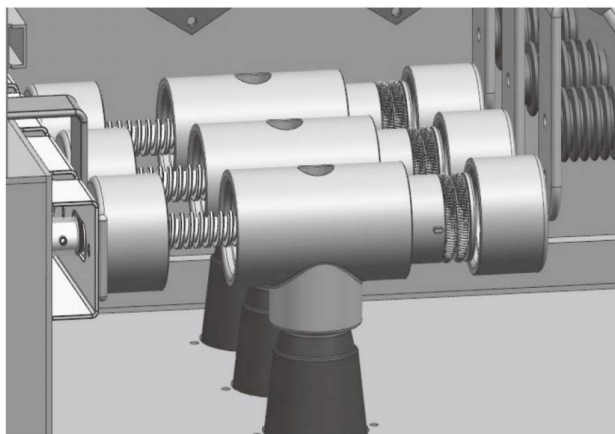
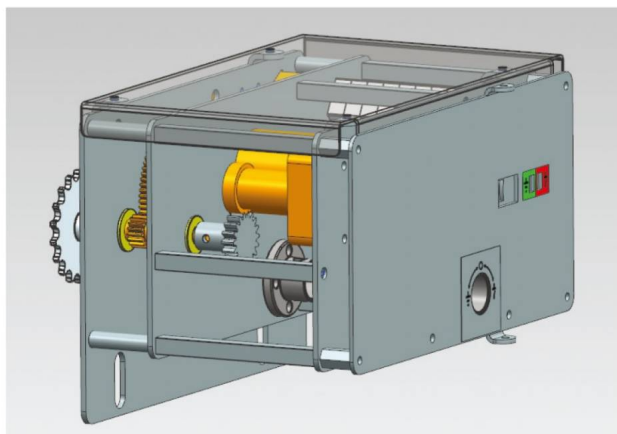
■ The circuit-breaker operating mechanism connected to the poles by a straight moving bellows, transmitting force

真空断路器技术参数 Vacuum circuit-breaker technical data

	单位 Unit	CDV-X-12
额定电压 Rated voltage	kV	12
额定电流 Rated current	A	2000、2500、3150
额定频率 Rated frequency	Hz	50
额定工频耐受电压(1min) Rated power frequency withstand voltage (1min)	kV	42
额定雷电冲击耐受电压 Rated lightning impulse withstand voltage	kV	75
额定短时耐受电流(4s) Rated short time withstand current (4s)	kA	...25
额定峰值耐受电流 Rated peak withstand current	kA	...63
额定短路开断电流(有效值) Rated short-circuit breaking current (rms)	kA	...25
额定短路关合电流(峰值) Rated short-circuit breaking current (peak)	kA	...63
机械寿命 Mechanical endurance	次 operations	30000

三工位开关

Three-position switch



三工位开关特点 Three-position switch characteristic

■ 三工位开关的功能包括:

- 母线联接
- 隔离
- 接地

■ 三工位开关位于气室内，其操动机构模块位于气室外，两者之间通过特殊的磁流体密封结构实现连接

■ 动触头通过绝缘丝杠驱动

■ 可手动或电动操作

■ The three-position disconnecter performs the following function:

- Connecting
- Disconnecting
- Earthing

■ The three-position disconnecter is located in the gas compartment, and the operating mechanism block is outside, realizing connection by the magnetic fluid sealing structure between both

- The moving contact by the insulating spindle driving
- Operate by hand or by a motor

隔离开关技术参数 Three position switch technical data

额定电压 Rated voltage	kV	12
额定电流 Rated current	A	2000、2500、3150
额定工频耐受电压(1min) Rated power frequency withstand voltage (1min)	kV	42/48
额定雷电冲击耐受电压 Rated lightning impulse withstand voltage	kV	75/85
额定短时耐受电流(4s) Rated short time withstand current (4s)	kA	...25
额定峰值耐受电流 Rated peak withstand current	kA	...63
机械寿命 Mechanical endurance	次 operations	10000
相间距 Pole-centre distance	mm	140/210

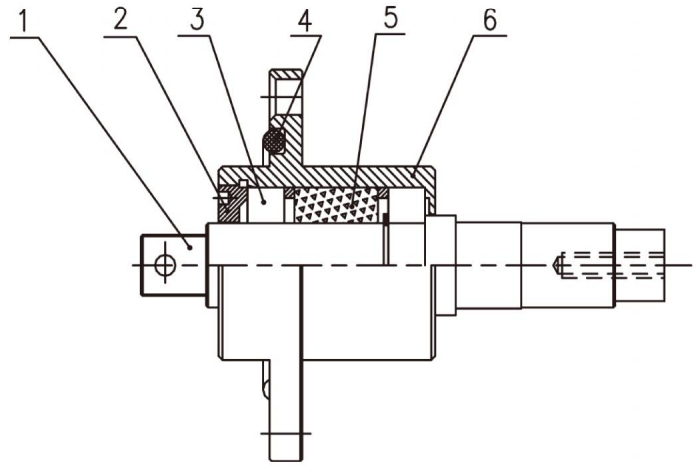
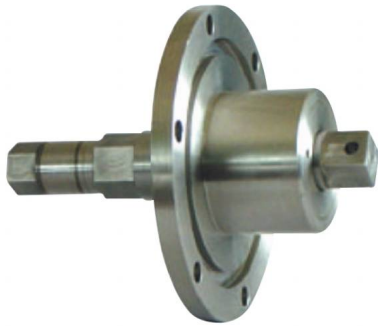
*注：额定电流>1250A时相间距210mm
 Note: rated current more than 1250A distance 210mm

6 特殊结构 Special Structure

磁流体密封主寸结构 Magneticfluid sealing structure

- 零泄漏
- 可靠性高、寿命长
- 耐压性能好

- Zero leakage
- High reliability and long life
- Excellent withstand pressure

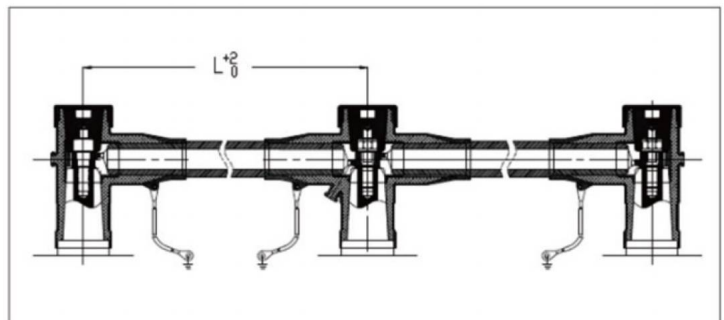


1. 主轴 Main shaft 2. 轴承盖 Lid of bearing 3. 轴承 Bearing 4. 密封圈 Sealing loop 5. 磁流体 Magneticfluid 6. 法兰盘 Flange tray

母线连接系统 Busbar connection system

- CDL8可以配备外部固体绝缘母线，其额定电流有1250A/2500A 两种。
*具体的尺寸说明和安装要求，见母线厂家资料。

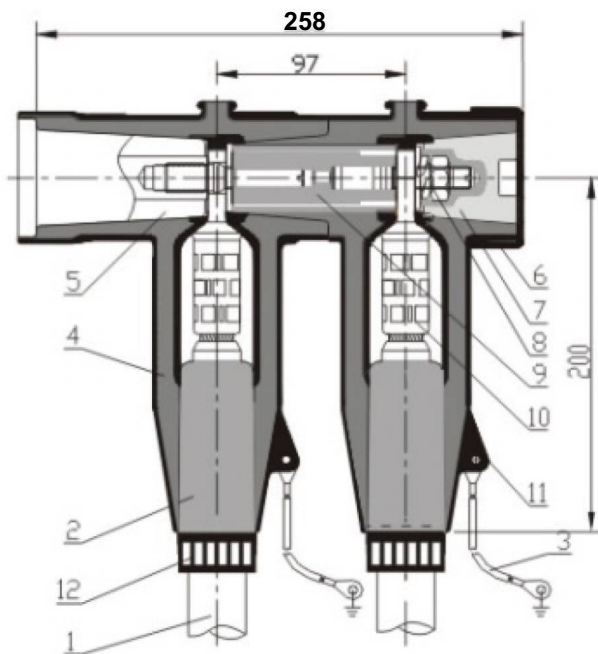
- CDL8 can be equipped with external solid insulated busbar for busbar extension. There are two kinds of busbar coupling: 1250A/2500A.
Detailed description and installation requirements, see busbar manufacturer information.



插接式电缆 Cable with plug-connectors

- CDL8系列气体绝缘环网柜所有单元出线套管采用统一标准的C型电缆套管，安装尺寸符合DIN47636和EN50181,推荐采用屏蔽型欧式电缆头，厂家可以根据客户需求，采用国外品牌，也可以采用国产知名品牌。
- 可以提供双电缆进线，带后接式避雷器等特殊方案，需要在订货时明确电缆规格和数量。

- The CDL8 are equipped with cable bushings which comply with DIN47636 and EN50181, Interface C with M16 x 2 metric threads. The European shielding cable terminations are recommended, which can be matched not only with the foreign brand products, but also with the domestic cable termination products as to meet the different customers' demands.
- Please specify if double set of cables, combination mode rear lightning arrestors or other special demand are needed.



- 具体的尺寸说明和安装要求，见电缆附件厂家资料
Detailed description and installation requirements, see cable connector manufacturer information

电压互感器

Voltage transformer

- 根据用户的需要，可以十分方便的安装电压互感器、电流互感器元件。
- 除采用常规电压互感器JDZ系列型号外，还可以选择特制的电缆插头式电压互感器：JSZV-10R型；大容量供电电源变压器DC-3,单只最大输出达到3kVA。

- The CDL8 cable compartment size allows for the convenient installation of PT and CT.
- According to the customer's requirements, in addition to the conventional models JDZ type, special specifications of the Cable plug type voltage transformer JSZV-10R and the large capacity power supply transformer DC-3, output capacity up to 3kVA, also can be used.



电流互感器

Current transformer

- 电流互感器根据项目参数需要和安装条件，可以选择开启式，穿芯式，和跑道式产品。

- Core open type, Ring core type and racetrack core type Current transformers can be choose according to project requirements.



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一次方案 (典型方案)

Primary Schemes (Typical)

方案编号 Scheme No.		1 2		3	4	5
主接线方案 Single-line diagram						
用途 Application		馈线 (进线) Feeder	馈线 (进线) Feeder	电缆进线+PT Cable feeder+PT	电缆进线+PT Cable feeder+PT	联络 Coupler
额定电流 (A) Rated current		...3150	...3150	...3150	...3150	...3150
主要元件 Main Components	真空断路器 VCB DQV-X-40.5	1 1		1 1 1		
	三工位开关 DS	1	1 1		1 1	
	电流互感器 CT	3	3	3	3	3
	电压互感器 PT			3	3	
	避雷器 Surge arrester CM-33/35		3	3	3	
	带电显示器 Voltage indicator	1	1	1 1		
	每相电缆根数 Cable per pole	1-4	1-4	1-4	1-4	

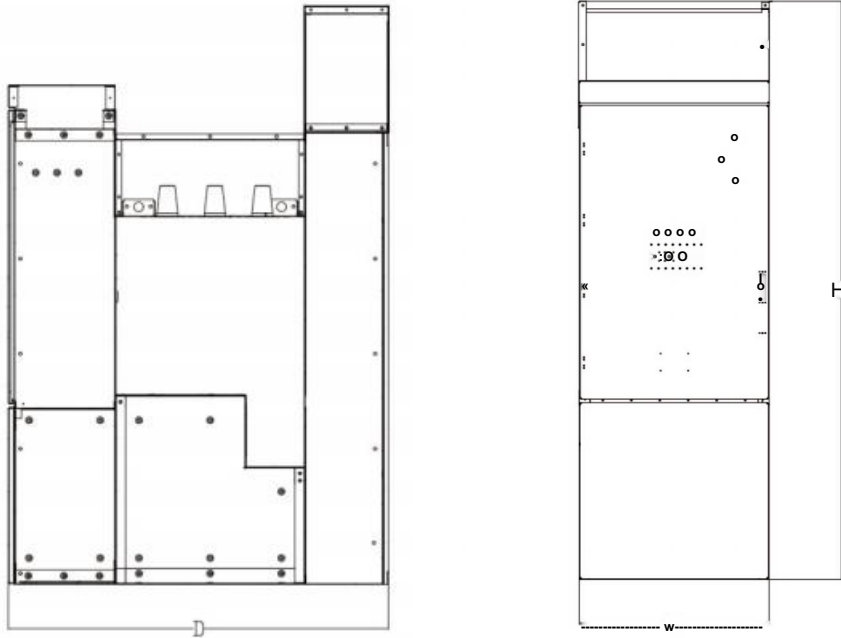
方案编号 Scheme No.		6	7	8	9	10
主接线方案 Single-line diagram						
用途 Application		母线提升 Rising	母线提升 Rising	联络 Coupler	隔离+避雷器 Disconnector+Arrester	联络+PT Coupler+PT
额定电流 (A) Rated current		...3150	...3150	...3150	...3150	...3150
主要元件 Main Components	真空断路器 VCB DQV-X-40.5					
	三工位开关 DS			1	1	1
	电流互感器 CT			3		
	电压互感器 PT					3
	避雷器 Surge arrester CM-33/35	3			3	
	带电显示器 Voltage indicator	1	1		1	
	每相电缆根数 Cable per pole		1~4		1~4	

方案编号 Scheme No.		11	12	13	14	15
主接线方案 Single-line diagram						
用途 Application		进线+计量 Feeder+Metering	电压计量+避雷器 Voltage metering+Arrester	电压计量 Voltage metering	电压计量 Voltage metering	计量+联络 Metering+Coupler
额定电流 (A) Rated current		...3150	...3150	...3150	...3150	...3150
主要元件 Main Components	真空断路器VCB DQV-X-40.5					1
	三工位开关DS	1 1		1	1 1	
	电流互感器CT	3				3
	电压互感器PT	3	3	3	3	3
	避雷器 Surge arrester CM-33/35 "		3		3	
	带电显示器 Voltage indicator	1 1		1 1		
	每相电缆根数 Cable per pole	1-4				1-4

方案编号 Scheme No.		16	17	18	19	20
主接线方案 Single-line diagram						
用途 Application		联络 Coupler	联络+PT Coupler+PT	架空进线 Feeder	架空进线 Feeder	架空进线+PT Feeder+PT
额定电流 (A) Rated current		...3150	...3150	...3150	...3150	...3150
主要元件 Main Components	真空断路器VCB DQV-X-40.5	1 1		1 1 1		
	三工位开关DS	1 1		1	1 1	
	电流互感器CT	3	3	3	3	3
	电压互感器PT		3			3
	避雷器 Surge arrester CM-33/35	3			3	
	带电显示器 Voltage indicator	1 1		1 1 1		
	每相电缆根数 Cable per pole					

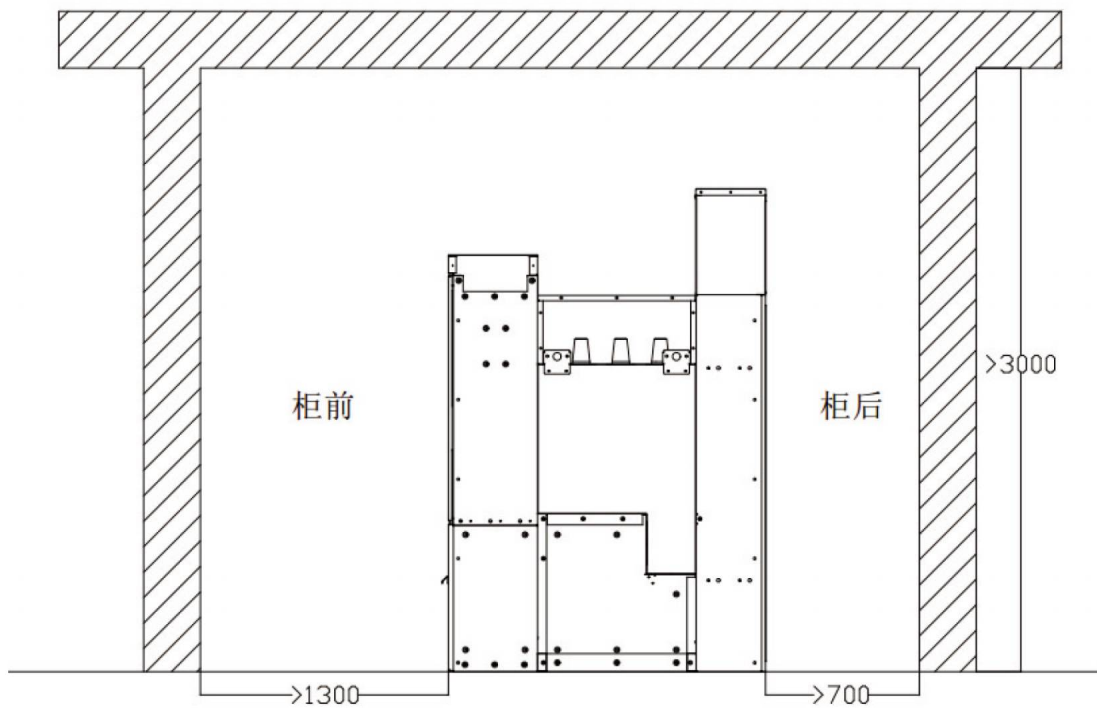
12kV C-GIS 安装 12kV C-GIS installation

开关柜外形尺寸图 Sketch of overall dimension for switchgear

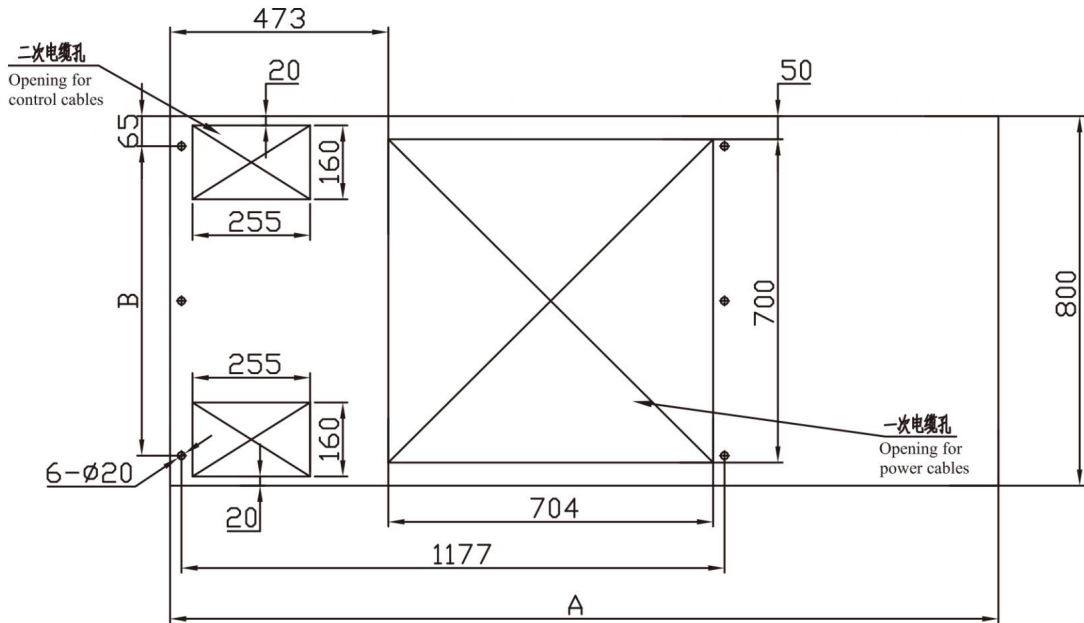


w	D	H
500/800	1400-1600	2400

开关柜布置图 Sketch of switchgears for installation

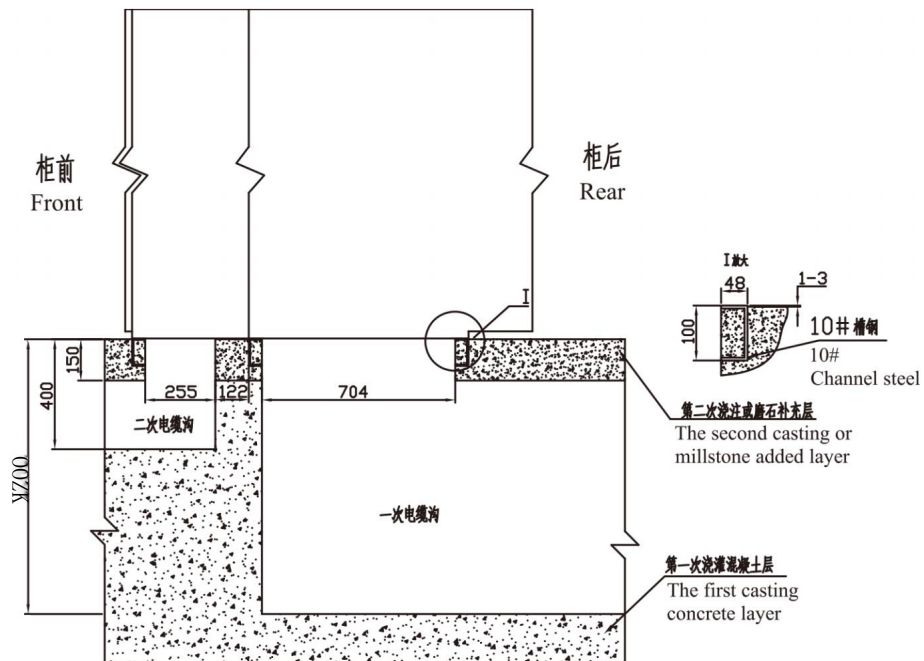


底板开孔及固定示意图 Sketch of floor cutouts and fix points



A	B
1450-1600	370/670

安装基础示意图 Sketch of installing foundation details



- 一次电缆终端安装严格按相关工艺要求
The fitting of primary cable terminals should be according to technology requirement strictly.
- 其它详见“产品使用说明书”
Refer to "Operation Manual" for others.