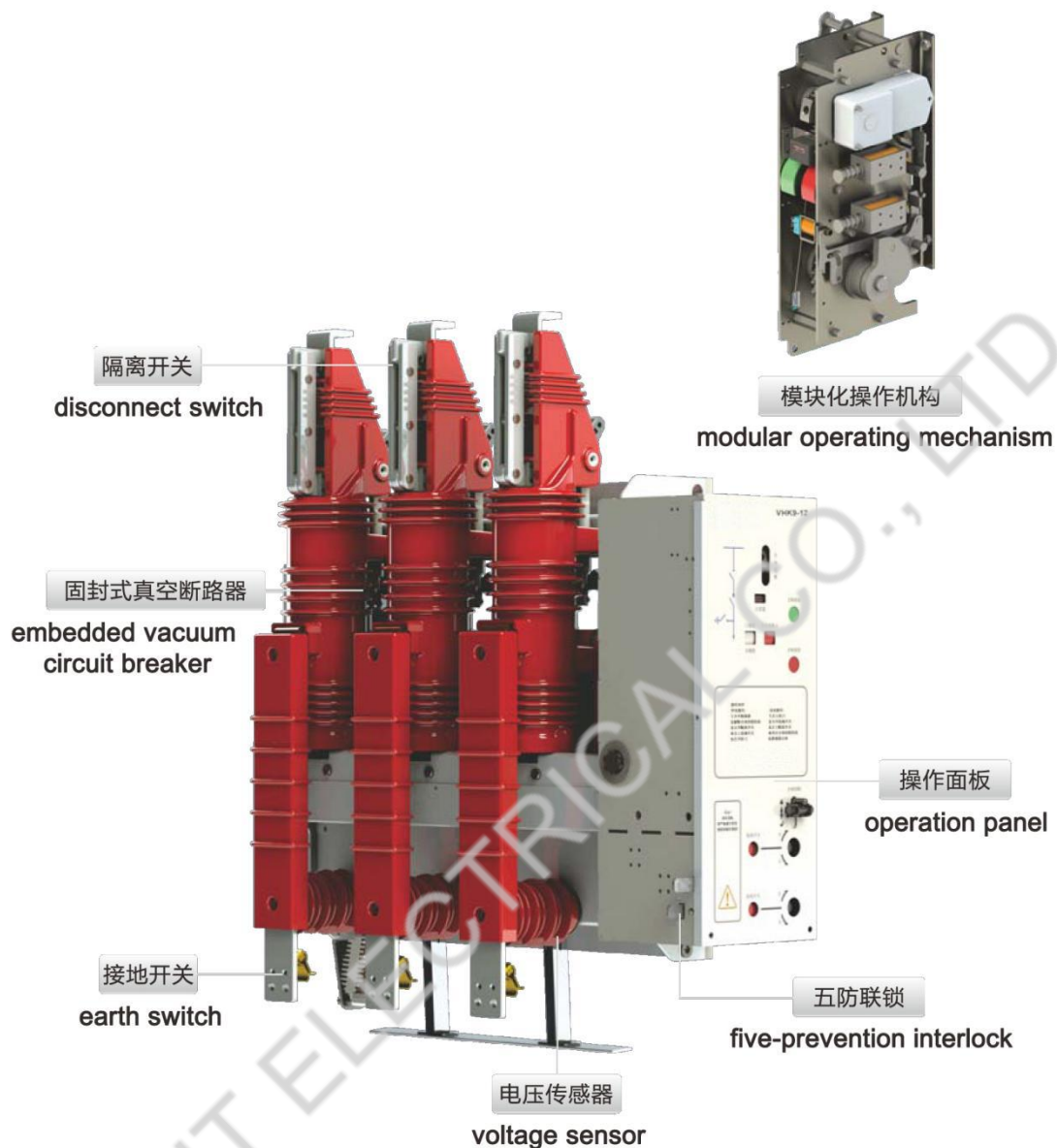


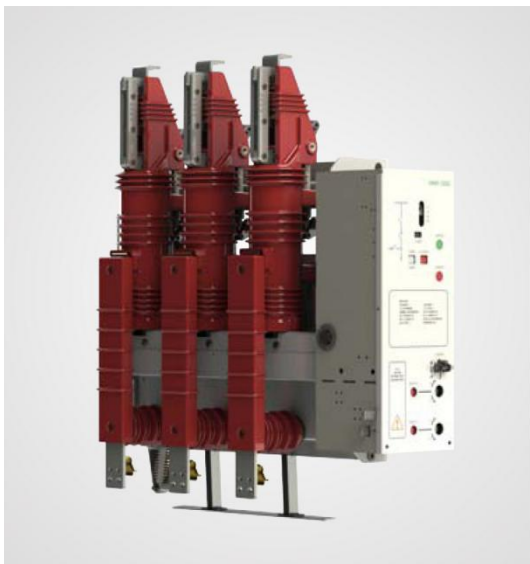
VHK9-12 TYPE INTEGRATED COMBINED VACUUM CIRCUIT BREAKER



概述 Outline

VHK9-12 型一体化组合真空断路器，是针对电力用户对电气设备可靠性安全性紧凑性需求的技术解读而研发的开关设备。适用于公共建筑、商用住宅建筑、工矿制造行业等的 12KV/7.2KV 电力配电系统，也适用于对紧凑性要求高的高压电机驱动的成套机械设备的配套。

The VHK9-12 type integrated combined vacuum circuit breaker is a switch developed for the technical interpretation of power users' requirements for the reliability, safety, and compactness of electrical equipment. It is suitable for 12KV/7.2KV power distribution systems in public buildings, commercial residential buildings, industrial and mining manufacturing industries, etc., and also suitable for complete sets of mechanical equipment driven by high-voltage motors that require high compactness.



隔离开关在合位，接地开关在分位。
Disconnect switch is in the closing position,
earth switch is in the opening position.



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环境条件 Environmental Conditions

- 海拔不超过 2000m;
- 环境温度+40℃;
- 湿度日平均值不大于 95%，月平均值不大于 95%;
- 周围空气应不受腐蚀性或可燃气体、水蒸气等明显污染;
- 无经常性的剧烈振动;
- 当使用条件不同或有其它要求时需与制造厂协商。
- Altitude: $\leq 2000\text{m}$;
- Ambient temperature: $+40^{\circ}\text{C}$;
- Relative humidity: daily average $\leq 95\%$, monthly average $\leq 90\%$;
- The surrounding air should not be significantly polluted by corrosive or combustible gas, water vapor, etc.;
- No frequent violent vibration;
- If have different use conditions, or other special requirements, please consult us in advance.

技术参数 Technical Parameters

序号 NO.	项目 items	单位 unit	参数 parameters
1	额定电压 rated voltage	kV	12
2	1min 工频耐压 1min power frequency withstand voltage	kV	42
3	雷电冲击耐压 rated lightning impulse withstand voltage	kV	75/85

4	额定电流 rated current	A	630, 1250
5	额定频率 rated frequency	Hz	50/60
6	额定短路开断电流 rated short circuit breaking current	kA	25, 31.5
7	额定短时耐受电流 rated short circuit breaking current	kA	25, 31.5
8	额定峰值耐受电流 rated peak value withstand current	kA	50, 63
9	额定短路电流开断次数 rated short circuit current breaking number	times	30
10	机械寿命 mechanical life	times	10000 (circuit breaker), 3000(disconnect switch/earth switch)
11	辅助回路工频耐受电压 auxiliary circuit power frequency withstand voltage	V	2000

产品技术特点 Product Technical Features

紧凑/灵活 Compact / Flexible

空气为介质的绝缘方式，满足电力行业技术规范的电气间隙与局放标准。紧凑型的配套柜体尺寸，配套标准柜尺寸：450 x 1000 x 1800mm（宽 x 深 x 高），成套配电系统特别紧凑，为昂贵的城市建筑土地节约空间。灵活的母线形式与扩展方式，方便与其他不同柜型的拼接。

The insulation mode of air as medium meets the electrical clearance and local discharge standards of the technical specifications of the electric power industry.

Compact supporting cabinet size, supporting standard cabinet size: 450*1000*1800mm (W*D*H), complete set of power distribution system is particularly compact, saving space for expensive urban construction land.

Flexible form of busbar and extension mode, convenient for other different cabinet type splicing.

整体/固封 Integrated / Embedded

一体化的断路器组合电器设计，组合电器集隔离开关、断路器、接地开关、带电传感器为一体，模块化设计，联锁简单可靠、检修方便。

Integrated circuit breaker combination electrical design, the combination of disconnect switch, circuit breaker, earth switch, charged sensor as one, modular design, simple and reliable interlocking, easy for maintenance.

可视化/高效率 Visualization / Efficiency

可视化的隔离开关断口设计，迅速的交付时间，整体模块化设计，使电气成套工厂装配便利迅捷。一体化结构，各类闭锁要求在单体机构内实现，减少因成套电气工厂组装工艺问题导致的闭锁失效风险。

Visual disconnect switch fracture design, rapid delivery time, the overall modular design, makes electrical

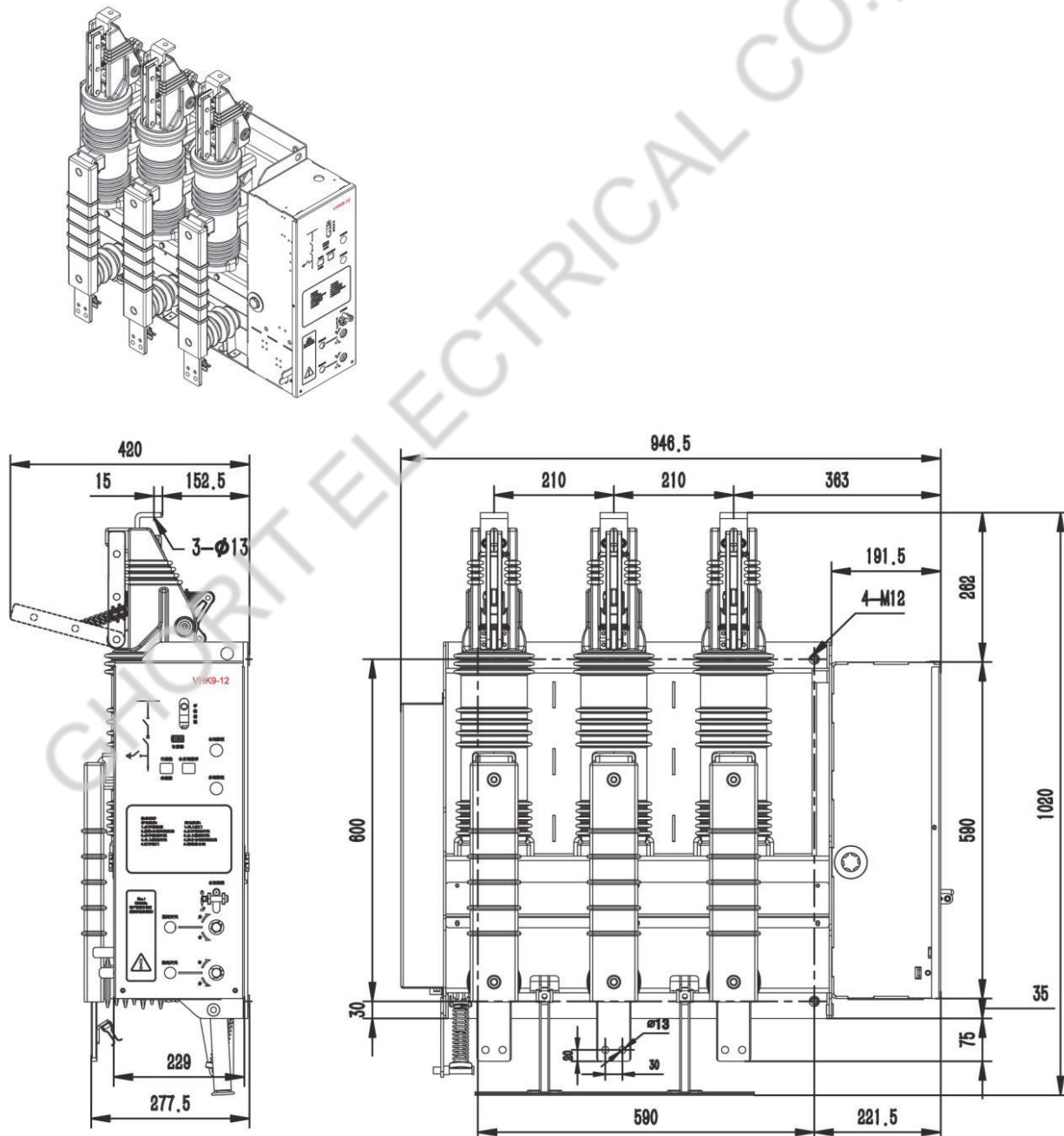
complete factory assembly is convenient and quick. Monolithic structure, all kinds of interlocking must be realized in the single mechanism, to reduce the risk of interlocking failure caused by assembly process problems in complete electrical factory.

稳定/耐久 **Stability / Durability**

弹簧/永磁机构可选，机械寿命长，固封方式的真空灭弧室封装，防尘、高绝缘性能。

Optional spring/permanent magnet mechanism, long mechanical life, sealed vacuum arc room encapsulation, dust proof, high insulation performance.

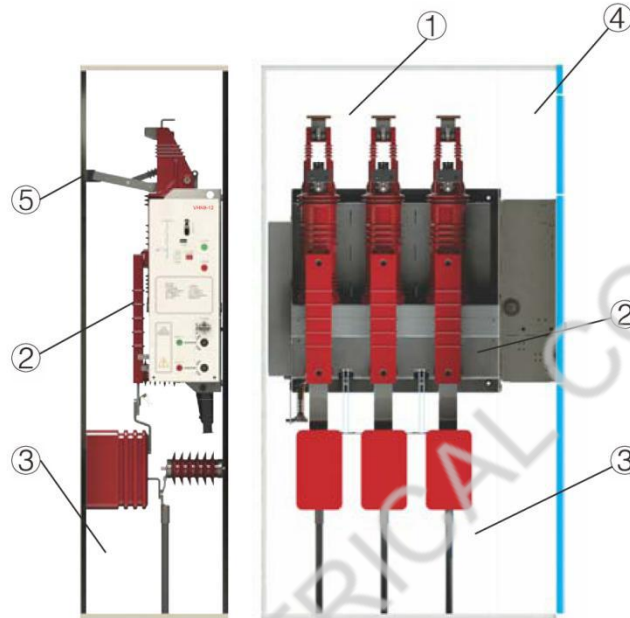
外形尺寸 **Overall Dimensions**



适用固定型开关柜结构 Applicable to Fixed Switchgear Structure

柜体为 2.0mm 敷铝锌板曲弯组装而成，强度高、重量轻及优良的耐腐蚀性，分隔成独立的低压室、母线室、开关室、电缆室。

The cabinet body is assembled by bending 2.0mm aluminum-zinc plate, with high strength, light weight, excellent corrosion resistance, separated into independent low voltage room, busbar room, switch room, cable room.



配套用固定型开关柜由以下 4 个部分组成：

①母线室 ②主开关 ③电缆室 ④操作机构、联锁机构和低压控制 ⑤上接地触头（选装）

The fixed type switchgear is composed of the following four parts:

①busbar room ②main switch ③cable room ④operating mechanism, interlocking mechanism and low voltage control ⑤upper earthing contact (optional)

①母线室 Busbar Room

母线室布置在柜的上部。在母线室中主母线连接在一起，贯穿整排开关柜。

The busbar room is arranged on the upper part of the cabinet. In the busbar room the main busbars are connected together through the whole row of switchgear.

②主开关 Main Switch

开关室内装有断路器，该室包含断路器、隔离开关、接地开关、电压传感器，通过断路器柜前面的操作结构可操作断路器界面，不需要把开关室的柜门打开。

Switch room is equipped with circuit breaker which includes circuit breaker, disconnect switch, earth switch and voltage sensor. Through the operation structure in front of the circuit breaker cabinet, the circuit breaker interface

can be operated without opening the cabinet door of the switch room.

③电缆室 Cable Room

断路器柜有宽裕的电缆室，主要用于电缆连接，使单芯或三芯电缆可以采用最简单的非屏蔽电缆头进行连接，同时充裕的空间还可以容纳避雷器、传感器等原件。按标准设计，柜门有观察窗和安全联锁装置。

电缆室底板配密封盖和带支撑架的、大小相宜的电缆线。电缆室底板和门前框可以拆下，方便电缆安装。

The circuit breaker cabinet has a generous cable room, which is mainly used for cable connection, so that the single or three core cables can be connected with the simplest unshielded cable connectors. At the same time, sufficient space can also accommodate the arrester, sensor and other components. In standard design, the cabinet door has an observation window and a safety interlock device.

Cable room bottom plate with sealing cover, support frame and the suitable size cable. Cable room bottom plate and door frame can be removed to facilitate cable installation.

④操作机构、联锁机构和低压控制 Operating Mechanism, Interlocking Mechanism and Low Voltage Control

带联锁的低压室同时起到控制盘的作用。低压室内装有带位置指示器的弹簧操作机构和机械联锁装置，也可装设辅助触点、跳闸线圈、紧急跳闸机构、电容式带电显示器、钥匙铁和电动操作装置，同时低压室空间还可供装设控制回路、测量仪表和微机保护装置。微机保护装置有后备的 RS232 或 RS485 通讯接口可实现远程监测。

The interlocking low voltage room also acts as a control panel. The low-voltage room is equipped with a spring operating mechanism with a position indicator and a mechanical interlock device. It can also be equipped with auxiliary contact, trip coil, emergency trip mechanism, capacitive charged display, key lock and electric operating device. At the same time, the low-voltage room space can also be equipped with control circuit, measuring instrument and microcomputer protection device. The microcomputer protection device has standby RS232 or RS485 communication interface, which can realize remote monitoring.