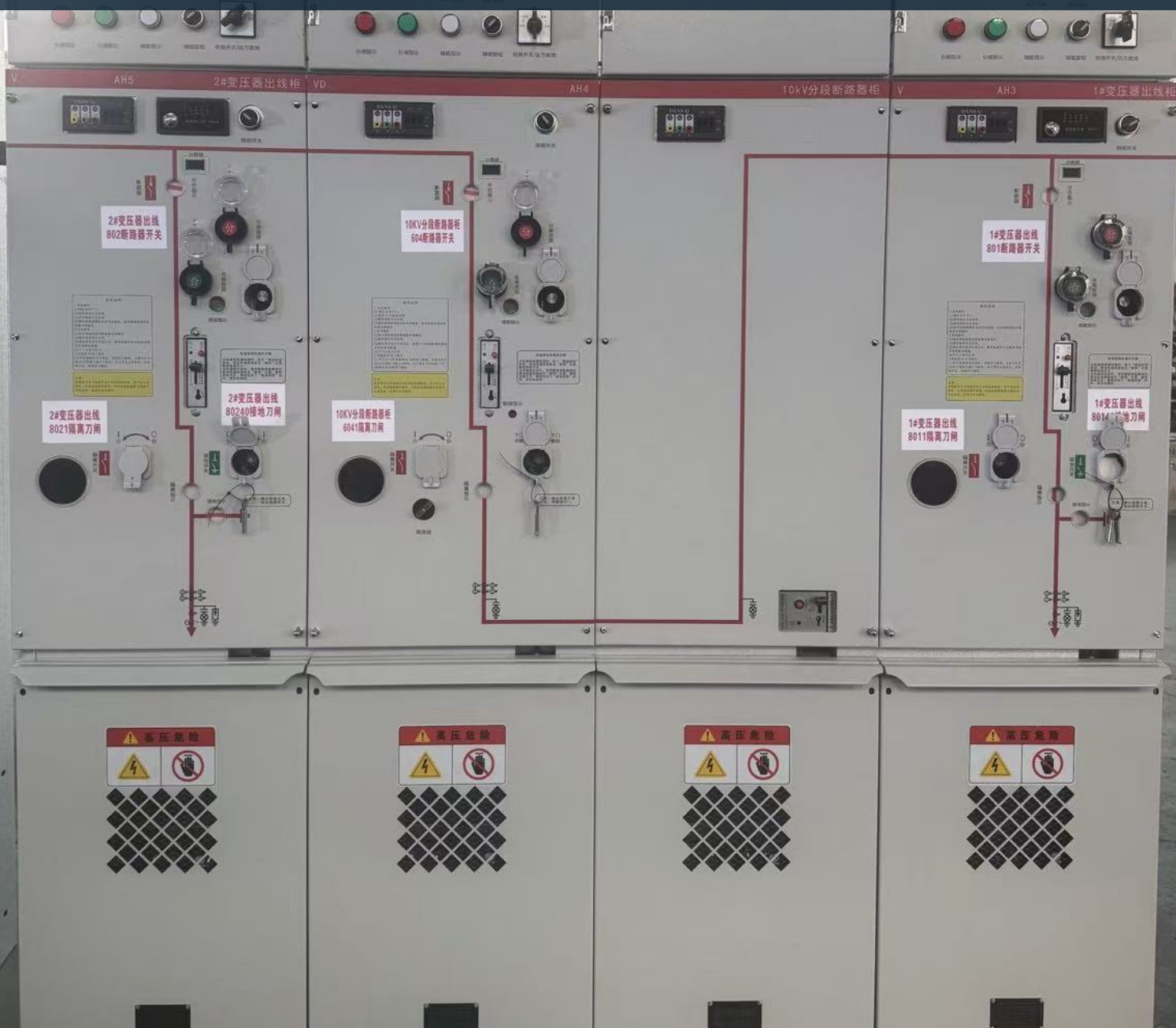


QCHB-12

Environmentally Friendly Gas-Insulated Ring Main Unit

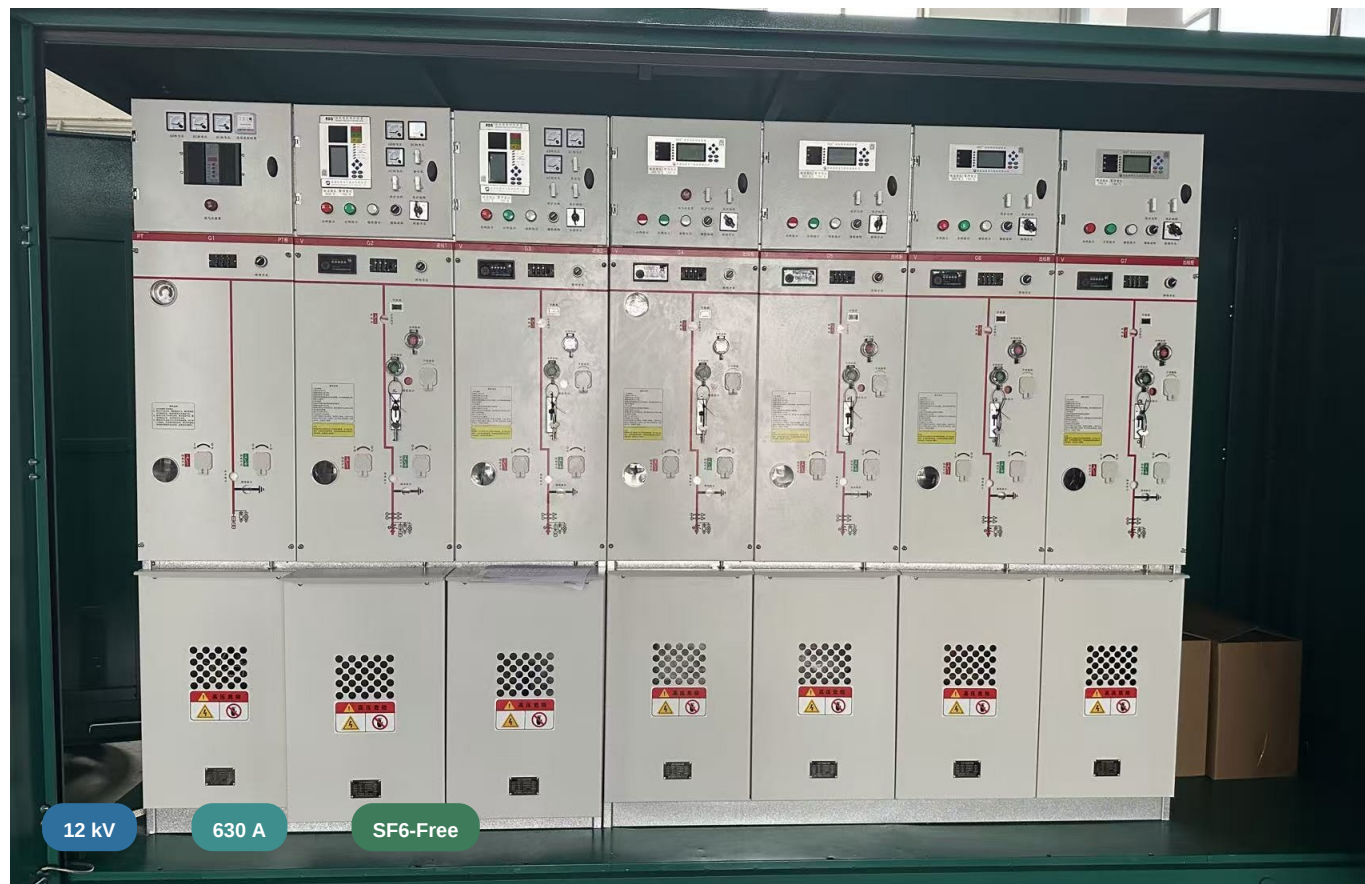
12 kV SF6-Free Medium Voltage Distribution Solution

Dry Air / Nitrogen (N2) Insulation | Modular Configuration | Project-Based Design



Qiangchi Electric Power Technology Co., Ltd.

Medium & Low Voltage Switchgear and Power Distribution Solutions



A practical SF6-free RMU platform for modern distribution projects

QCHB-12 is an environmentally friendly medium-voltage ring main unit for 12 kV, three-phase, 50 Hz distribution systems. The product manual specifies dry air or nitrogen (N₂) as the insulating medium, avoiding the use of SF₆ gas. Its modular architecture supports different functional units and project-specific single-line configurations.

Typical Applications

- Urban distribution networks and residential communities
- Secondary substations, switching stations and compact substations
- Industrial plants, mines, commercial buildings and infrastructure projects
- Airports, metro systems, wind power, railway and tunnel applications

Key Product Features

SF6-Free Insulation

Dry air or nitrogen (N₂) can be used as the insulating medium, supporting lower greenhouse-gas impact.

Fully Insulated & Sealed

Insulated conductive parts, shielded cable connection and sealed design improve operational safety.

Mechanical Interlocking

Three-position isolating/earthing arrangement and interlocking help reduce incorrect operation.

Modular Configuration

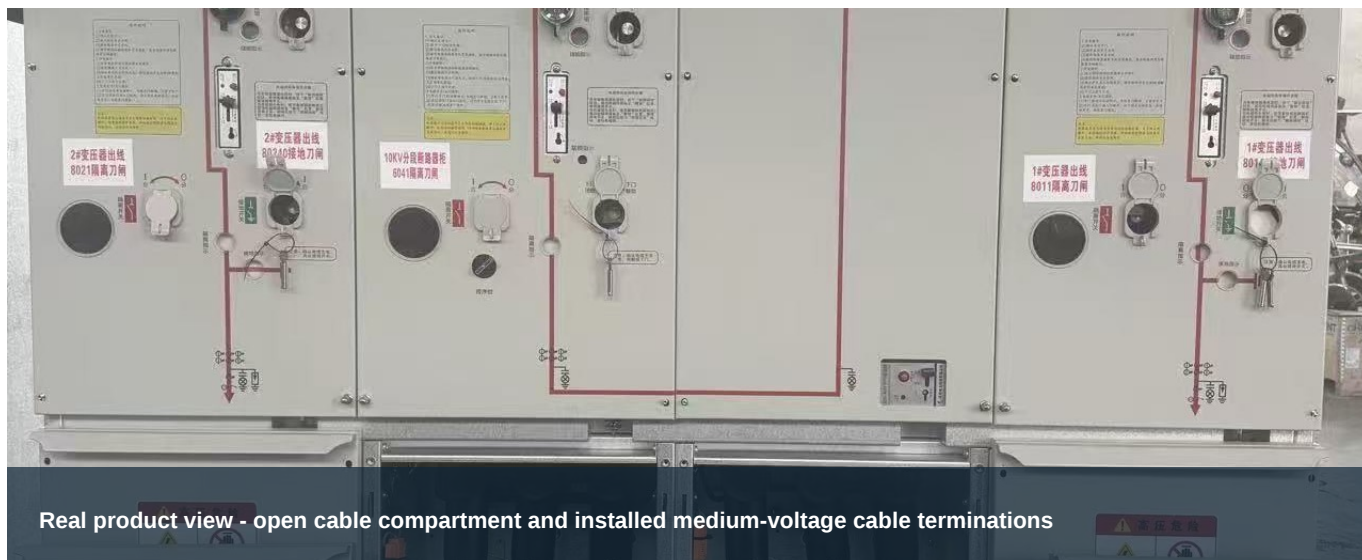
C, V, D, PT, M and other functional units can be combined according to the project single-line diagram.

Smart-Grid Ready

Interfaces and sensor installation positions are reserved for monitoring and intelligent distribution functions.

Project-Based Engineering

Configurations, protection, metering and auxiliary requirements can be adapted to the project specification.



Real product view - open cable compartment and installed medium-voltage cable terminations

Main Technical Data

Series data + example nameplate data

QCHB-12 Series - Basic Data

Rated voltage	12 kV
Rated frequency	50 Hz
Rated current	630 A
Power frequency withstand	42 kV
Lightning impulse withstand	75 kV
Insulating medium	Dry air / Nitrogen
Sealed live parts	IP67
Switchgear enclosure	IP4X
Ambient temperature	-25 C to +45 C
24 h average temperature	<= +35 C
Relative humidity	<= 95%
Altitude	<= 1500 m

Example Nameplate



- 12 kV / 630 A / 50 Hz
- Short-time withstand: 20 kA
- Peak withstand: 50 kA
- Lightning impulse withstand: 75 kV
- 1 min power frequency withstand: 42 kV
- Protection grade: IP67

Engineering note

Short-circuit ratings and detailed configuration may vary by functional unit and project. For each order, final parameters should follow the confirmed technical specification, drawing and nameplate.

Functional Units & Dimensions

Functional Unit Dimensions

Unit	Width	Depth	Max. projection	Height
C Unit	420 mm	850 mm	910 mm	1650 + 350
V Unit	420 mm	850 mm	910 mm	1650 + 350
D Unit	420 mm	850 mm	910 mm	1650 + 350
PT Unit	420 / 600 mm	850 mm	910 mm	1650 + 350
M Unit	750 mm	850 mm	910 mm	1650 + 350

Overall height is approximately 2000 mm. Dimensions may vary according to project configuration and optional components.

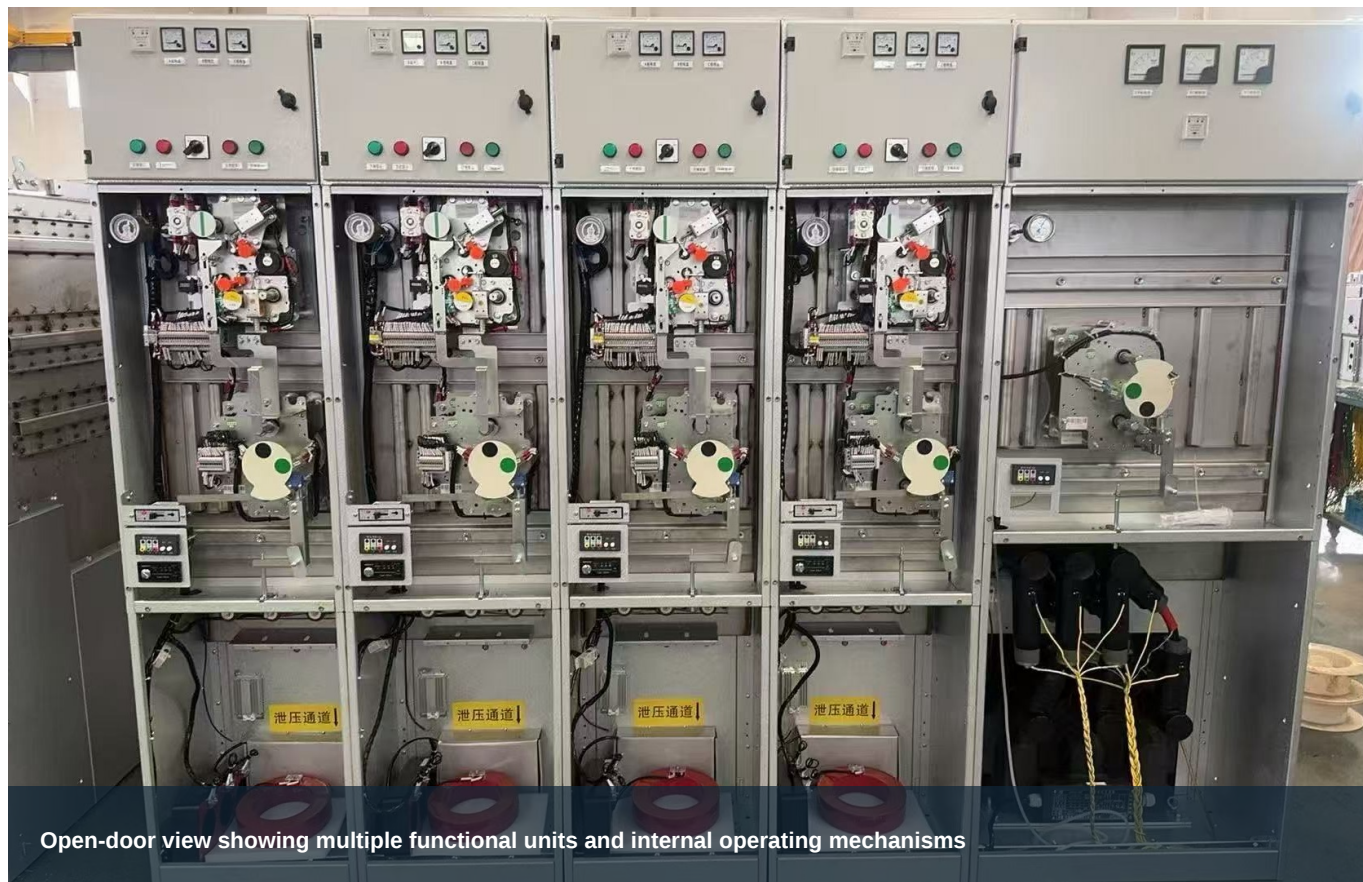
Dimension Reference

柜宽	420mm
柜深	850mm (最大投影深度910mm)
柜高	1650+350mm

Functional unit concept

The QCHB-12 platform supports modular functional units such as cable/load-switch units (C), circuit-breaker units (V), direct/bus related units (D), voltage-transformer units (PT), metering units (M) and project-specific combinations. Final unit selection follows the single-line diagram.

Structure & Operational Safety



Open-door view showing multiple functional units and internal operating mechanisms

Three-position disconnecter

Isolation and earthing functions are arranged for clear operating logic.

Solid-insulated pole design

Epoxy-resin APG molded insulation provides electrical and mechanical support.

Shielded cable connection

The product manual describes shielded cable connectors and insulated busbar connections.

Sealed high-voltage compartment

The design aims to reduce routine cleaning and maintenance requirements.

Service Conditions & Standards

Normal Service Conditions

Maximum ambient temperature	+45 C
Minimum ambient temperature	-25 C
24-hour average	<= +35 C
Average relative humidity (24 h)	<= 95%
Altitude	<= 1500 m
Seismic resistance	Grade 8
Protection - sealed live parts	IP67
Protection - enclosure	IP4X

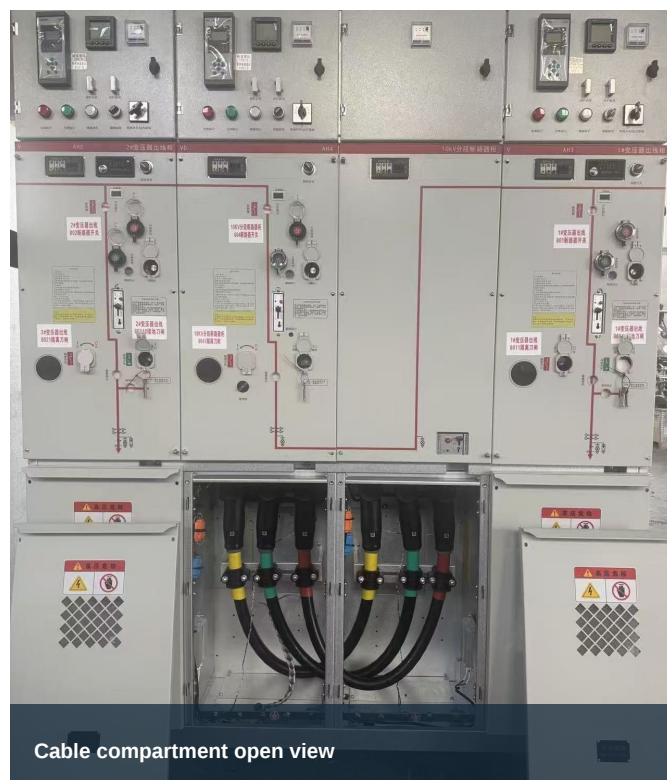
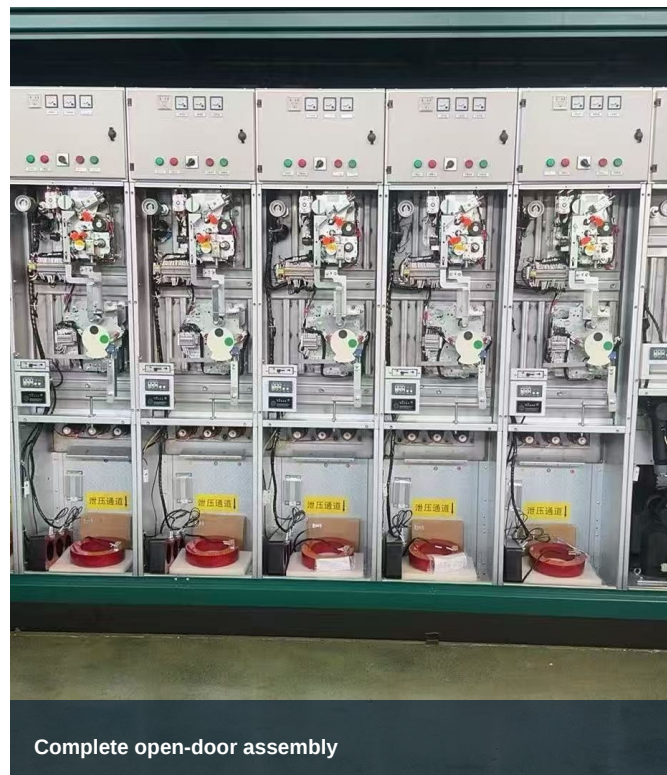
Applicable Chinese Standards

- GB/T 11022 - Common specifications for high-voltage switchgear and controlgear
- GB/T 3906 - AC metal-enclosed switchgear and controlgear
- GB/T 1985 - High-voltage AC disconnectors and earthing switches
- GB/T 3804 - High-voltage AC switches
- GB/T 1984 - High-voltage AC circuit-breakers
- GB/T 4208 - Degrees of protection provided by enclosure (IP Code)
- GB/T 7354 - Partial discharge measurements
- GB/T 311.1 - Insulation coordination

Compliance wording for overseas use

Current materials support reference to the listed Chinese national standards and available type-test / inspection documentation. This catalogue does not claim IEC or CE certification unless separately confirmed for a specific product or project.

Real Product Gallery



Technical Documentation & Quality Support

Available / confirmed material set

- QCHB-12 environmental gas-insulated RMU product manual
- QCHB(STQCHB)-12 C-unit type-test / inspection documentation in the company qualification dossier
- QCHB(STQCHB)-12 V-unit type-test / inspection documentation in the company qualification dossier
- Real product photographs, internal views and assembly photographs
- Functional-unit dimensions and example nameplate data
- Typical configuration information from the current product manual

Traceability Principle

For overseas projects, the technical proposal should match the exact functional unit, short-circuit rating, protection scheme, auxiliary system and project specification. Test reports should be used only for the corresponding model/configuration.

What we can prepare for a live project

- Technical datasheet and configuration schedule
- Single-line diagram review / confirmation
- Panel arrangement and dimension confirmation
- Bill of main components / brand confirmation
- Factory documentation package for shipment
- Commercial quotation after technical confirmation

Project Cooperation Workflow

1

Receive project SLD / technical specification

2

Confirm functional units, ratings and protection requirements

3

Prepare technical configuration and drawing confirmation

4

Confirm components, accessories and optional automation

5

Issue project-specific commercial quotation

6

Manufacturing, inspection, packing and shipment documentation

Important

QCHB project pricing is configuration-based. There is no fixed unit price in this catalogue. Final quotation is prepared after the project scheme and technical requirements are confirmed.

Talk to us about your 12 kV distribution project

Send your SLD, technical specification or functional-unit requirements. We can review the configuration and prepare a project-specific technical proposal.

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