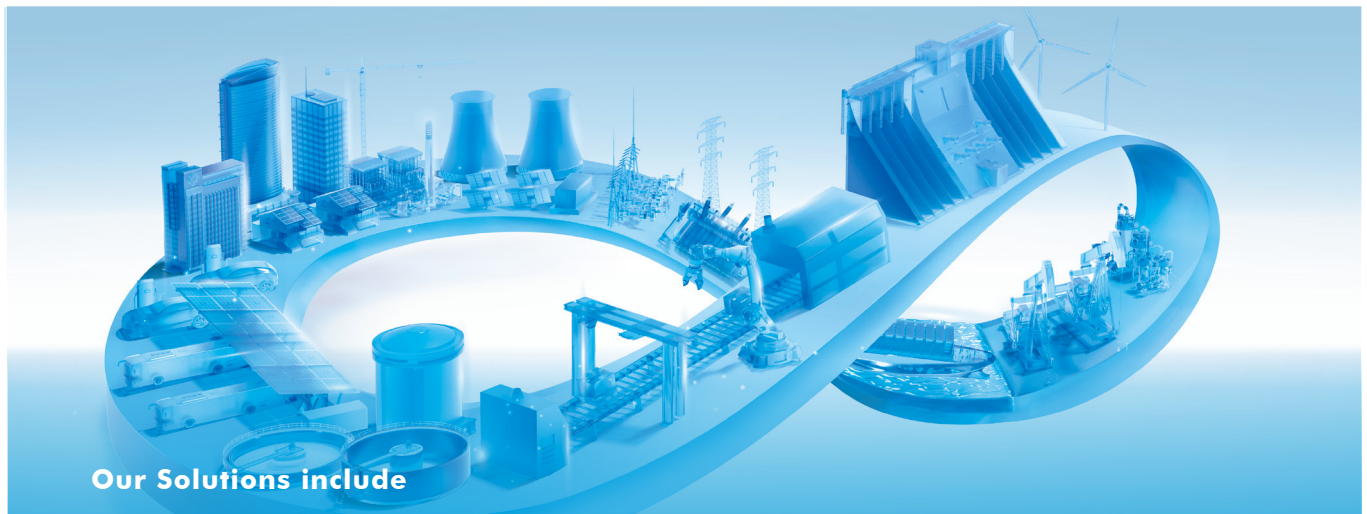




NG7-12~24

Medium Voltage GIS for Secondary Distribution

CHINT Smart Electrical



Our Solutions include

 Crystalline Silicon Manufacturing	 New Energy	 Power Systems & Energy Storage
 Wires & Cables	 Power T&D	 Integrated Power Distribution
 Low-voltage Electrical	 Meters	 Building Electrical

Founded in 1984, CHINT Group Co., Ltd. (CHINT) is a global leading smart energy solutions provider. With more than 40 years of industry expertise, CHINT has remained committed to industrial innovation and brand excellence. Our company drives progress through five strategic pillars: industrialization, technological advancement, global expansion, digital transformation, and platform development.

CHINT operates across three core sectors—Green Energy, Intelligent Electrical Solutions, and Smart Low-Carbon Solutions—supported by two key platforms: CHINT Global and Sci-Tech Innovation Incubation. Its extensive business network spans more than 140 countries and regions, powered by a global workforce of over 50,000 employees.

In 2024, CHINT achieved USD 25 billion in revenue and has maintained its position among the Top 500 Chinese Enterprises for over 20 consecutive years. Notably, CHINT Electrics became China's first publicly listed company specializing in low-voltage electrical appliances, reinforcing its industry leadership.

 USD 25 Billion Annual Revenue, CHINT Group	 USD 27.7 Billion Total Assets, CHINT Group	 15% YoY Revenue Annual Growth, CHINT Group
 140+ Business Coverage in Countries and Regions	 3%-12% Annual R&D Investment Obtained from the Percentage of Sales	 10,000 Accumulated Authorized Patents
 40+ Global Subsidiaries	 50,000 Global Employees	 68% Localization Rate of CHINT Global Employees

GLOBAL FOOTPRINT

Business Covering

140+

Countries and Regions



40+

Global Subsidiaries



30+

Global Manufacturing Bases



2,300+

Global Distributors



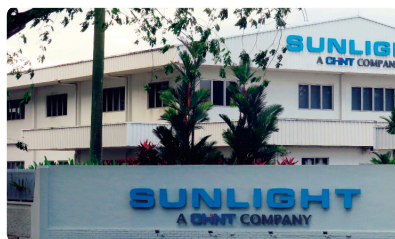
68%

Localization Rate of Global Employees



Sunlight

Singapore & Malaysia



Main Products: Low-voltage Switchgears

Sunlight

Vietnam



Main Products: MSB, MCC, SDB, DB, CU, Fire Pump Panel, Weatherproof Panel, String Combine Box, Solar Switchboard

SchneiTec CHINT

Cambodia



Main Products: MV Equipment including 22kV Distribution Transformer, Switchgear, Smart RMU, Capacitor Bank

Metering Factory

Uganda

Solar Factory

Thailand

Meter Factory

Mexico

Meter Factory

Kenya



Main Products: Meters



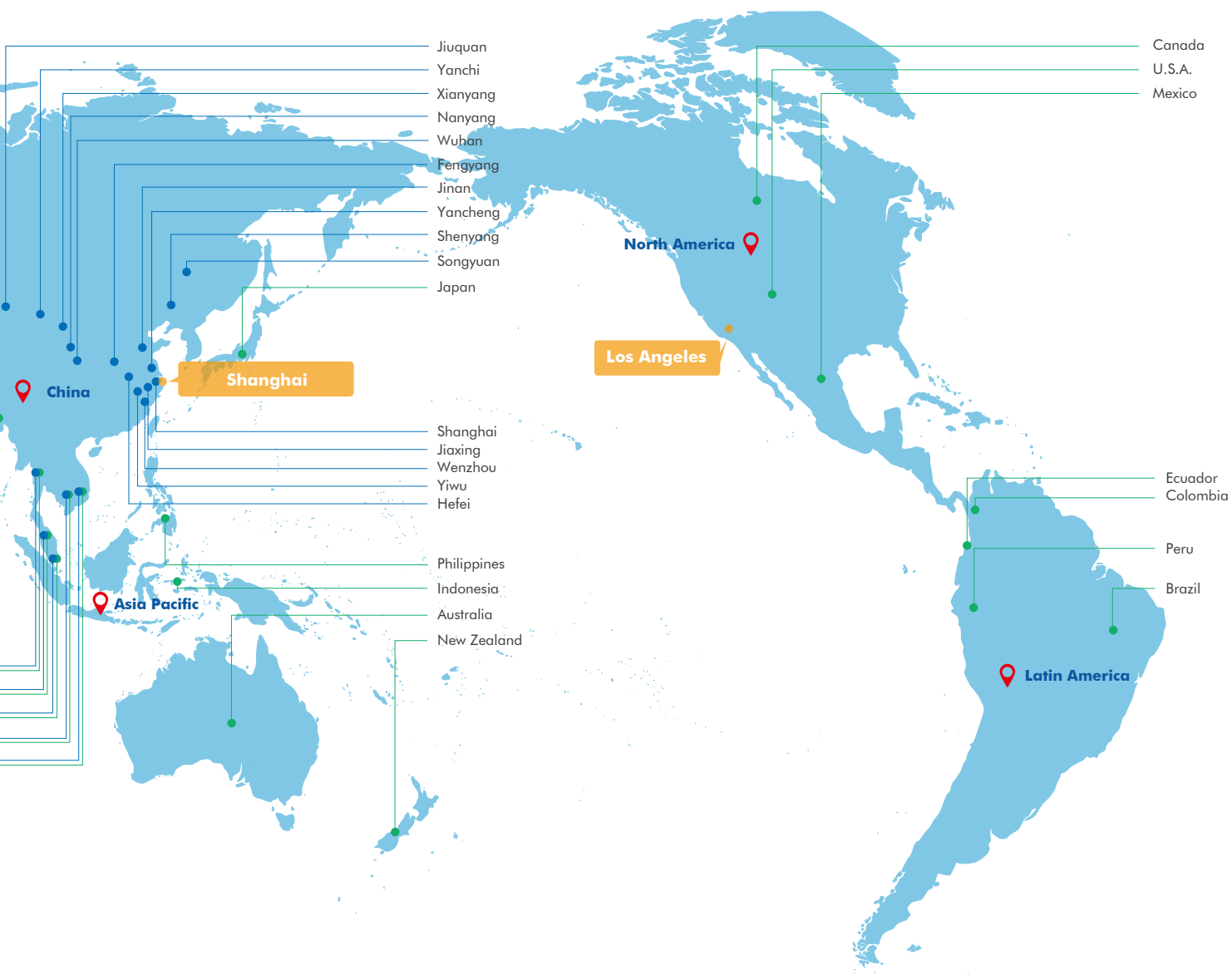
Main Products: PV Module, PV Cell



Main Products: Smart Meters



Main Products: Smart Meters



CHINT – EGEMAC

Egypt



Main Products: Full Series of Low-voltage Switchgears

CHINT ATC

Saudi Arabia



Main Products: RMU and Intelligent Power T&D Products of 33kV and below

CHINT-AJLAN & Bros

Saudi Arabia



Main Products: Low-voltage Components

Wenzhou Low-voltage Intelligent Factory

China



Main Products: Low-voltage Components

Power T&D Shanghai Factory

China



Main Products: Power Transformer, GIS, MV and LV Switchgear, HGIS, HV Circuit Breaker, Disconnect

Power T&D Jiaxing Factory

China



Main Products: MV and LV Switchgear, C-GIS, MV Circuit Breaker, Prefabricated Substation

Haining Solar Intelligent Factory

China



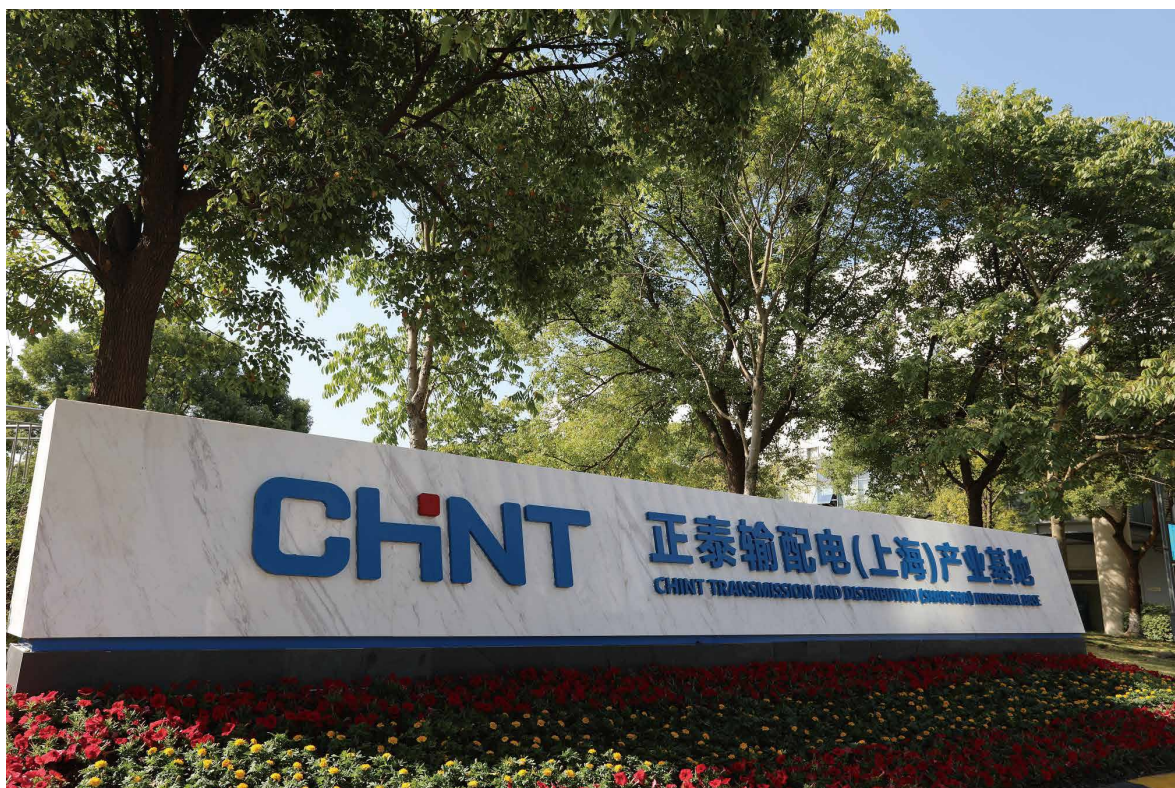
Main Products: PV Module, PV Cell





CHINT ELECTRIC

CHINT Electric Co., Ltd is a subsidiary of CHINT Group Corporation. With the wide range of transmission and distribution products, as well as the systematic and professional solution, CHINT Electric has supplied products and EPC services to customers over 140 countries across different industrial sectors, including power utility, renewable energy, oil and gas, metallurgy, railway and so on. Now CHINT Electric Co., Ltd has become one of the main players for Power T&D equipment and EPC services in the world.





MV GIS Product Line

- The medium voltage gas insulated switchgear product line is one of the five core product lines of Zhejiang Chint Electric Technology Co., Ltd and is wholly owned by CHINT Electric Co., Ltd. With its professional strength, it has been deeply involved in the field of indoor and outdoor MV GIS for many years. Currently, CHINT SF6 gas-insulated products cover the entire voltage range of 12 - 40.5kV. In recent years, as environmental issues have become more prominent, CHINT has actively fulfilled its corporate social responsibility by successively developing and launching several environmentally friendly gas products.
- This product line is equipped with a professional team that integrates research and development, engineering design, production and quality control. It has advanced equipment such as laser cutting machines, fully automatic robotic laser welding stations, sheet metal processing robots, automatic assembly lines, helium leak detection equipment, and partial discharge detection instruments, etc. The ISO class-8 clean room effectively reduces the risk of pollution in gas tank production, ensuring product stability. The company's laboratory has obtained CNAS(ILAC) certification, ensuring the safety and reliability of each device that leaves the factory.
- With excellent quality, CHINT MV GIS products have been exported to more than 70 countries and regions around the world. They can still operate reliably in extremely harsh environments such as high altitude, high salinity, heavy pollution, and high humidity, etc.
- CHINT is keeping the promise that "CHINT empower the world" to transmit the electricity to thousands of customers better and reliably.



KEMA Labs

KEMA TYPE TEST CERTIFICATE OF SHOR CIRCUIT MAKING AND BREAKING PERFORMANCE

Object
A three-phase 10 kV insulated metal-enclosed switchgear assembly
Unit 1: Incorporating a three-pole three-position switch
Unit 2: Incorporating a three-pole three-position switch
Unit 3: Incorporating a three-pole three-position switch
Unit 4: Incorporating a three-pole three-position switch
Unit 5: Incorporating a three-pole three-position switch

Type NG2-17.5 **Serial No.** 2022007
2022007
2022070

Rated voltage 17.5 kV **Rated normal current** 20 kA
Rated short-time withstand current 20 kA/3s **Rated frequency** 50 Hz

Manufacturer CHINT Electric Technology Co., Ltd.
No. 3535 Xinchang Road, Xinchang District, Ningbo City, Zhejiang Prov.
China

Client CHINT Electric Technology Co., Ltd.
No. 3535 Xinchang Road, Xinchang District, Ningbo City, Zhejiang Prov.
China

Tested by KEMA B.V.
KEMA Laboratory, Amersfoort, The Netherlands

Date of test 6, 19 and 20 October 2022

This Certificate has been issued by KEMA Labs (KEMA) in accordance with the IEC 62271-100:2017 and IEC 62271-100:2017/AM1:2019 standards. The results of the tests are shown in the record of the tests and the photographs attached hereto. The results of the tests are shown in the record of the tests and the photographs attached hereto. The results of the tests are shown in the record of the tests and the photographs attached hereto.

intertek

ASTA TYPE TEST CERTIFICATE OF COMPLETE TYPE TESTS

Project No: G104393923 **Certificate No:** ASTA-TYPE-000499

Applicant: CHINT Electric Co., Ltd.
No. 3535 Xinchang Road, Xinchang District, Ningbo City, Zhejiang Prov.
China

Apparatus: 630 A, 36 kV, 50 Hz, 3-phase, AC metal enclosed, SF₆ gas insulated switchgear, fitted with a 3-phase 630 A, Class 12 CA-M2-50 vacuum circuit-breaker (VCB) and a Class 100 disconnector integrated with a Class 12, 50 kV setting switch

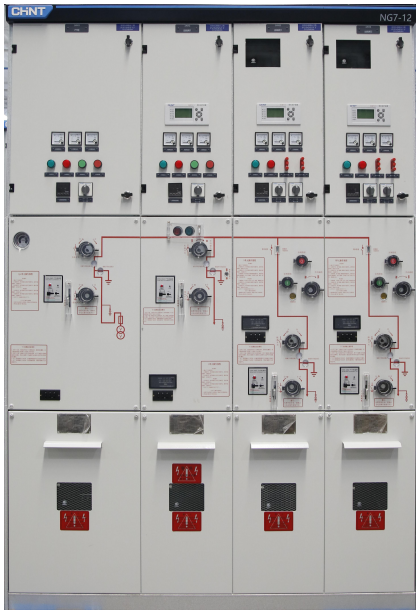
Manufacturer: CHINT Electric Co., Ltd.
No. 3535 Xinchang Road, Xinchang District, Ningbo City, Zhejiang Prov.
China

Test Report No: 2001750-5
Designation: NG2-17.5/20-25

The apparatus which is representative of the designation, supplied drawings and photographs have been included in accordance with the requirements of the standard.

IEC 62271-100:2017, Clause 6.2.2, 6.2.3, 6.2.4, 6.2.5, 6.2.6, 6.2.7, 6.2.8, 6.2.9, 6.2.10, 6.2.11, 6.2.12, 6.2.13, 6.2.14, 6.2.15, 6.2.16, 6.2.17, 6.2.18, 6.2.19, 6.2.20, 6.2.21, 6.2.22, 6.2.23, 6.2.24, 6.2.25, 6.2.26, 6.2.27, 6.2.28, 6.2.29, 6.2.30, 6.2.31, 6.2.32, 6.2.33, 6.2.34, 6.2.35, 6.2.36, 6.2.37, 6.2.38, 6.2.39, 6.2.40, 6.2.41, 6.2.42, 6.2.43, 6.2.44, 6.2.45, 6.2.46, 6.2.47, 6.2.48, 6.2.49, 6.2.50, 6.2.51, 6.2.52, 6.2.53, 6.2.54, 6.2.55, 6.2.56, 6.2.57, 6.2.58, 6.2.59, 6.2.60, 6.2.61, 6.2.62, 6.2.63, 6.2.64, 6.2.65, 6.2.66, 6.2.67, 6.2.68, 6.2.69, 6.2.70, 6.2.71, 6.2.72, 6.2.73, 6.2.74, 6.2.75, 6.2.76, 6.2.77, 6.2.78, 6.2.79, 6.2.80, 6.2.81, 6.2.82, 6.2.83, 6.2.84, 6.2.85, 6.2.86, 6.2.87, 6.2.88, 6.2.89, 6.2.90, 6.2.91, 6.2.92, 6.2.93, 6.2.94, 6.2.95, 6.2.96, 6.2.97, 6.2.98, 6.2.99, 6.2.100, 6.2.101, 6.2.102, 6.2.103, 6.2.104, 6.2.105, 6.2.106, 6.2.107, 6.2.108, 6.2.109, 6.2.110, 6.2.111, 6.2.112, 6.2.113, 6.2.114, 6.2.115, 6.2.116, 6.2.117, 6.2.118, 6.2.119, 6.2.120, 6.2.121, 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6.2.788, 6.2.789, 6.2.790, 6.2.791, 6.2.792, 6.2.793, 6.2.794, 6.2.795, 6.2.796, 6.2.797, 6.2.798, 6.2.799, 6.2.800, 6.2.801, 6.2.802, 6.2.803, 6.2.804, 6.2.805, 6.2.806, 6.2.807, 6.2.808, 6.2.809, 6.2.810, 6.2.811, 6.2.812, 6.2.813, 6.2.814, 6.2.815, 6.2.816, 6.2.817, 6.2.818, 6.2.819, 6.2.820, 6.2.821, 6.2.822, 6.2.823, 6.2.824, 6.2.825, 6.2.826, 6.2.827, 6.2.828, 6.2.829, 6.2.830, 6.2.831, 6.2.832, 6.2.833, 6.2.834, 6.2.835, 6.2.836, 6.2.837, 6.2.838, 6.2.839, 6.2.840, 6.2.841, 6.2.842, 6.2.843, 6.2.844, 6.2.845, 6.2.846, 6.2.847, 6.2.848, 6.2.849, 6.2.850, 6.2.851, 6.2.852, 6.2.853, 6.2.854, 6.2.855, 6.2.856, 6.2.857, 6.2.858, 6.2.859, 6.2.860, 6.2.861, 6.2.862, 6.2.863, 6.2.864, 6.2.865, 6.2.866, 6.2.867, 6.2.868, 6.2.869, 6.2.870, 6.2.871, 6.2.872, 6.2.873, 6.2.874, 6.2.875, 6.2.876, 6.2.877, 6.2.878, 6.2.879, 6.2.880, 6.2.881, 6.2.882, 6.2.883, 6.2.884, 6.2.885, 6.2.886, 6.2.887, 6.2.888, 6.2.889, 6.2.890, 6.2.891, 6.2.892, 6.2.893, 6.2.894, 6.2.895, 6.2.896, 6.2.897, 6.2.898, 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NG7-12~24 Medium Voltage GIS for Secondary Distribution



Overview

NG7 series is a metal enclosed single busbar SF6 gas-insulated switchgear. It is a new generation of products designed and manufactured by CHINT according to IEC 62271-200. The NG7 switchgear employs a full seal structure scheme and modular design. All live parts are placed in the sealed stainless steel shell, which makes them free from the effect of external environment and ensures the requirements of high reliability and security. In addition, factorization automation solutions can be configured to realize intelligent control.

NG7-12~24 is a switchgear of the NG7 family. It is developed for secondary distribution networks with a voltage not exceeding 24kV. It has a variety of combinations and can be flexibly extended, which not only meets the requirements of power distribution, but also meets the needs of various secondary distribution application for flexible compact switchgear. It is widely used in public power grids, utilities, rail transit, new energy E-house, solar farm, wind farm, data center and other new energy fields.

NG7-12~24 can realize a common enclosure of 1~4 unit circuits and free combination of schemes. Moreover, the common enclosures can be freely combined according to the requirements of customers, which embodies the advantage of flexible extension.

Executive Standards

- IEC 62271-1 High-voltage switchgear and controlgear - Part 1: Common specifications for alternating current switchgear and controlgear
- IEC 62271-100 High-voltage switchgear and controlgear - Part 100: Alternating-current circuit-breakers
- IEC 62271-102 High-voltage switchgear and controlgear - Part 102: Alternating current disconnectors and earthing switches
- IEC 62271-103 High-voltage switchgear and controlgear - Part 103: Alternating current switches for rated voltages above 1 kV up to and including 52kV
- IEC 62271-105 High-voltage switchgear and controlgear - Part 105: Alternating current switch-fuse combinations for rated voltages above 1 kV up to and including 52 kV
- IEC 62271-200 High-voltage switchgear and controlgear - Part 200: AC metal-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV
- IEC 60282-1 High-voltage fuses - Part 1: Current-limiting fuses
- IEC 60529 Degrees of protection provided by enclosures (IP code)
- IEC 60071-1 Insulation co-ordination - Part 1: Definitions, principles and rules

NG7-12~24 Medium Voltage GIS for Secondary Distribution

Operating Environment Condition

- a) Environmental temperature: maximum temperature of +40°C, and minimum temperature of -25°C. The average value within 24 hours does not exceed 35°C.
- b) Altitude: ≤5000m (it should be specified when the equipment operating altitude exceeds 1000m.)
- c) Environmental humidity: relative humidity does not exceed 95% within 24 hours and monthly average humidity does not exceed 90%.
- d) Electromagnetic interference: the amplitude of electromagnetic interference induced in the secondary system is less than or equal to 1.6kV.
- e) Seismic intensity: magnitude 8.
- f) Installation environment: no explosive or corrosive gas in the ambient air, no violent impact in the installation site.

NOTE: Please check with the us for customization when it's not within the above condition.

Technical Parameters

Item		Unit	Load break switch unit (C)	Switch-Fuse combination unit (F)	Circuit breaker unit (V)
Rated voltage		kV	12/24	12/24	12/24
Rated frequency		Hz	50(60)	50(60)	50(60)
Rated current		A	630	≤125	630
Rated short-duration power frequency voltage (1min)	To earth & between phases	kV	42/65	42/65	42/65
	Across the isolating distance		48/79	48/79	48/79
	Control and auxiliary circuits		2	2	2
Rated lightning impulse voltage	To earth & between phases	kV	75/125	75/125	75/125
	Across the isolating distance		85/145	85/145	85/145
Rated short-time withstand current	Main circuit/4s	kA	25/20	—	25/20
	Earthing switch/4s		25/20	—	25/20
	Earthing circuit/4s		21.7/17.4	—	21.7/17.4
Rated peak withstand current	Main circuit	kA	63/50	—	63/50
	Earthing circuit		54.5/43.5	—	54.5/43.5
Rated short-circuit making current		kA	—	80	63/50
Rated short-circuit breaking current		kA	—	31.5	25/20
Making and breaking tests TD_{Isc}		kA	—	31.5	—
Rated transfer current $TD_{Itransfer}$		A	—	1500/1200	—
Electrical endurance	Load break switch	—	E3	E3	—
	Earthing switch		E2	E2	E2
	Circuit breaker		—	—	E2
Mechanical endurance	Load break switch	Time	10000 (M2)	10000 (M2)	—
	Disconnecter		—	—	5000 (M1)
	Earthing switch		5000	5000	5000
	Circuit breaker		—	—	10000 (M2)
Internal arc classification		kA	25/20	—	25/20
SF ₆ gas (relative value of 20°C)	Rated inflation pressure	MPa	0.04	0.04	0.04
	Minimum function pressure		0.02	0.02	0.02
Protection grade	Gas tank		IP67	IP67	IP67
	Enclosure		IP4X	IP4X	IP4X
Annual gas leakage rate		%/Y	≤0.01	≤0.01	≤0.01

NG7-12~24 Medium Voltage GIS for Secondary Distribution

Technical Characteristics of Products

- All-insulation and full-seal design

The primary live parts of the NG7 series switchgear are completely sealed in a gas tank welded by stainless steel plates. The inlet-outlet lines are connected through fully insulated and shielded cable connectors, and the rated inflation pressure in the gas tank is 0.14 Mpa, with protection degree IP67. The products can be applied in several environments with high altitude, high salt fog, heavy pollution and damp, etc.

- Standard modular design, flexible extension and convenient combination

Product standardization degree is rather high and modular design scheme is adopted, which contributes to flexible and fast combination. The units can be extended freely for the left and right, and various unit combinations can be carried out through special busbar connectors, so as to meet the diversified power distribution requirements of users to the greatest extent.

- Advanced welding and sealing technology

Stainless steel plates of gas tank are welded using the laser cutting and auto welding robot, thus ensuring the dimensional accuracy and welding quality of the plates. Isobaric vacuumizing and helium leak detection technology are applied for the assembled gas boxes to ensure that the annual gas leakage rate of the gas tank is lower than 0.01%.

- Friendly user interface and perfect prevention design

The switchgear can be operated manually and electrically with simple and reliable operation process. With perfect mechanical interlocking design, the overall structural is able to ensure operational safety.

- Online intelligent monitoring and protection scheme

The switchgear can be connected with the automatic system through the communication network, thus achieving remote control, remote measurement and remote communication of the switchgear. And also, fault isolation, recovery and network reconfiguration, etc. of the distribution network can be implemented.

- Special application scheme for cable branch box

Due to the increasing application of distributed loop network switching stations, a scheme that outgoing lines from the left and right can be passed through the sleeve for the busbar is adopted specially for the NG7 series switchgear, which is suitable for cable branch boxes with one or more load switches and provides users with flexible and economical distribution schemes.

Main Structure

Enclosure

The enclosure consists of a 2mm thick Al-Zn coated frame and a painted outer shell, effectively preventing environmental corrosion. The enclosure also features a protection degree up to IP41 and an impact resistance rating of IK10, which protect the internal operating mechanisms. In addition, the mimic diagram on the front plate, combined with the mechanical indicators of the mechanisms, indicates the position of each switch.

Gas tank

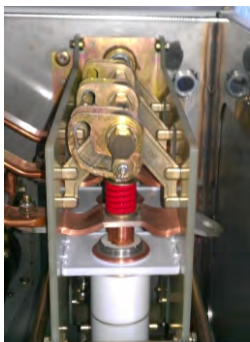
The gas tank is welded with stainless steel plates and is equipped with primary live parts of the switchgear. The gas tank is welded by a automatic welding robot, by employing isobaric vacuum extraction and helium leak detection technology, the product's sealing performance is ensured. The box is equipped with a density relay to observe the gas pressure. A pressure relief valve is installed at the bottom of the gas chamber to release fault gases in the event of an arc inside, thereby minimizing user losses to the greatest extent possible.

Main switch

Among different functional units, there are a variety of switch configurations. Circuit breaker unit employs vacuum interrupter combined with three position disconnector as the main switch. Load break switch unit and switch-fuse combined unit employ three position load break switch as the main switch.

The circuit breaker uses vacuum as the arc-extinguishing medium. It has excellent breaking performance and can operate maintenance-free throughout its service life.

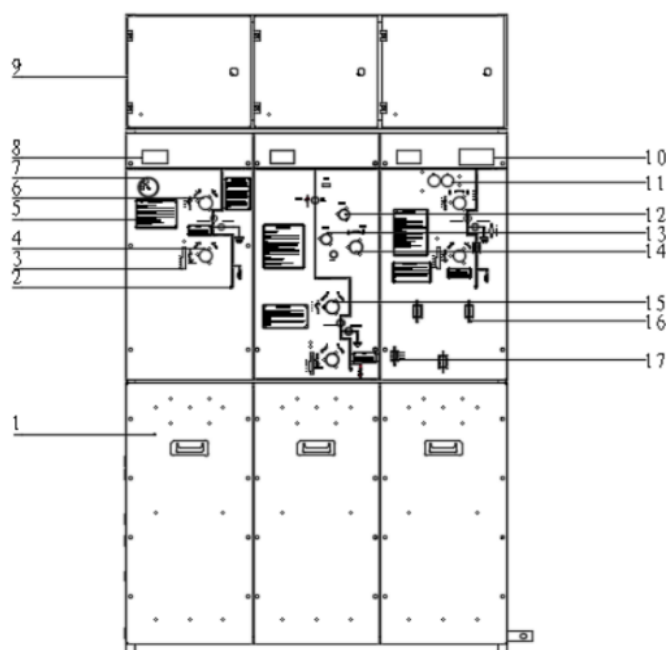
The three-position switch, either disconnector or load break switch, uses one moving contact to achieve three working states: closed position, open position, and grounding position. This switch ensures mechanically that the main circuit and the earthing circuit cannot be closed at the same time. It also employs a mechanical interlock to ensure that the earthing switch can only be closed when the main switch is open, and also the main switch can only be closed when the earthing switch is open.



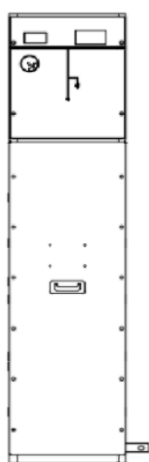
NG7-12~24 Medium Voltage GIS for Secondary Distribution

Design

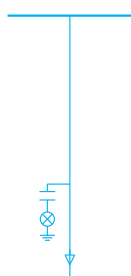
- 1 Cable compartment
- 2 Mimic single line diagram
- 3 Cable door interlocking
- 4 Earthing switch operating hole
- 5 Operating guidance
- 6 Load break switch operating hole
- 7 Pressure indicator
- 8 Capacitive voltage indicator
- 9 Low voltage compartment
- 10 Earth fault indicator
- 11 Load break switch operating pushbutton (only F unit)
- 12 Circuit breaker open pushbutton
- 13 Circuit breaker close pushbutton
- 15 Disconnecter operating pushbutton
- 16 Fuse
- 17 Fuse indicator



Modular Unit



Unit D



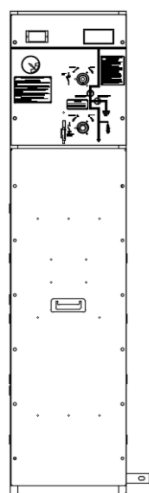
Unit D is the cable connection unit, which has no switch and can realize the connection of incoming-outgoing lines directly.

Standard components

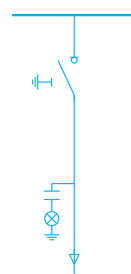
- 630A busbar
- Mimic diagram
- Live display (with aux. contact 1NO)
- Density meter
- Enclosure
- Earthing bar
- Cable bushing (Type C)
- Cable door electromagnetic lock

Optional components

- Short circuit and earth fault indicator
 - Cable joint & accessories
 - Lightning arrester
 - Extension bushing
 - Extension busbar connector
 - Current transformer
 - Auxiliary contact:
Density meter contact 1alarm+1block
- Note: Please indicate if more aux. contacts are required.



Unit C



Unit C is the load break switch unit, with closing, opening and earthing three working positions. The load break switch can close or open nominal working current, and it is mainly applied to the connection, branching and control of the incoming-outgoing lines of the ring loop cable.

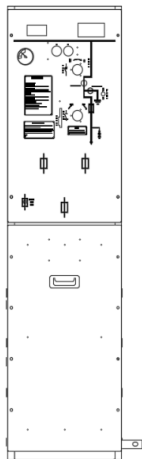
Standard components

- 630A busbar
- Three position load break switch
- Mimic diagram with switch position indicator
- Live display (with aux. contact 1NO)
- Density meter
- Enclosure
- Earthing busbar
- Cable bushing (Type C)
- Operating handles

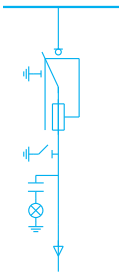
Optional components

- Electric operating of the main switch
 - Short circuit and earth fault indicator
 - Cable joint & accessories
 - Lightning arrester
 - Earthing switch electromagnetic lock
 - Key-based mechanical interlock
 - Extension bushing
 - Extension busbar connector
 - Current transformer
 - Low voltage compartment
 - Padlock of operating holes
 - Auxiliary contact:
Main switch 2NO+2NC
Earthing switch 1NO+1NC
Density meter contact 1alarm+1block
- Note: Please indicate if more aux. contacts are required.

NG7-12~24 Medium Voltage GIS for Secondary Distribution



Unit F



Unit F combines a three position load break switch and three phases high voltage fuses. While realizing opening and closing normal current through the load break switch, the fuse is used to cut off the fault current occurred in the circuit. Mainly applies to the control and protection of distribution transformers.

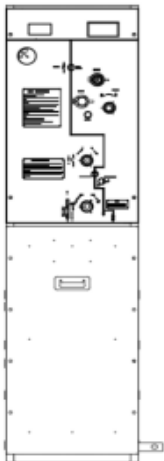
Standard components

- 630A busbar
- Three position load break switch
- Mimic diagram with switch position indicator
- Live display (with aux. contact 1NO)
- Density meter
- Enclosure
- Earthing busbar
- Cable bushing (Type C)
- Operating handles

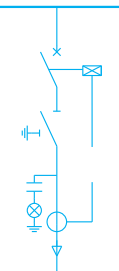
Optional components

- High voltage fuses up to 125A
- Electric operating of the main switch
- Short circuit and earth fault indicator
- Cable joint & accessories
- Lightning arrester
- Earthing switch electromagnetic lock
- Key-based mechanical interlock
- Extension bushing
- Extension busbar connector
- Current transformer
- Low voltage compartment
- Padlock of operating holes
- Auxiliary contact:
Main switch 2NO+2NC
Earthing switch 1NO+1NC
Density meter contact 1alarm+1block
Fuse failure signal 1NO

Note: Please indicate if more aux. contacts are required.



Unit V



Unit V is a circuit breaker unit, a combination of vacuum circuit breaker and three position disconnect. It's mainly used for control, connection, branching and protection of cable lines as well as control and protection of large capacity loads. Reliable mechanical interlock ensures opening or closing of the load current is done by the circuit breaker. The three position switch can be only operated when the circuit breaker is open. This unit can be equipped with line current transformers and a digital protection relay to realize perfect security protection.

Standard components

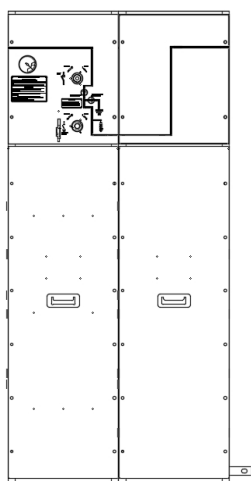
- 630A busbar
- Vacuum circuit breaker (with 1 closing and 1 tripping coil)
- Circuit breaker closing and opening knobs
- Three position disconnect
- Mimic diagram with switch position indicator
- Live display (with aux. contact 1NO)
- Density meter
- Enclosure
- Earthing busbar
- Cable bushing (Type C)
- Operating handles (including spring charging handle)

Optional components

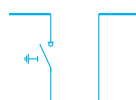
- Electric operating of the disconnect
- Short circuit and earth fault indicator
- Cable joint & accessories
- Lightning arrester
- Earthing switch electromagnetic lock
- Key-based mechanical interlock
- Extension bushing
- Extension busbar connector
- Current transformer
- Protection relay
- Low power tripping coil
- Low voltage compartment
- Padlock of operating holes and knobs
- Auxiliary contact:
Circuit breaker 2NO+2NC
Disconnect 2NO+2NC
Earthing switch 1NO+1NC
Density meter contact 1alarm+1block

Note: Please indicate if more aux. contacts are required.

NG7-12~24 Medium Voltage GIS for Secondary Distribution



Unit SL



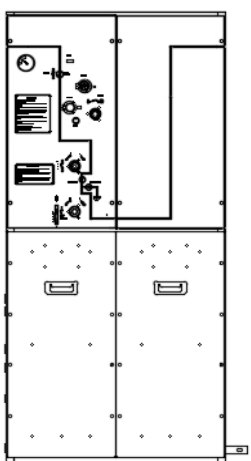
SL is a busbar sectionalizer unit with a three position load break switch. It can close or open nominal working current to achieve the busbar connection or isolation.

Standard components

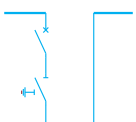
- 630A busbar
- Three position load break switch
- Mimic diagram with switch position indicator
- Density meter
- Enclosure
- Earthing busbar
- Operating handles

Optional components

- Electric operating of the main switch
 - Key-based mechanical interlock
 - Extension bushing
 - Extension busbar connector
 - Low voltage compartment
 - Padlock of operating holes
 - Auxiliary contact:
Main switch 2NO+2NC
Earthing switch 1NO+1NC
Density meter contact 1alarm+1block
- Note: Please indicate if more aux. contacts are required.



Unit SV



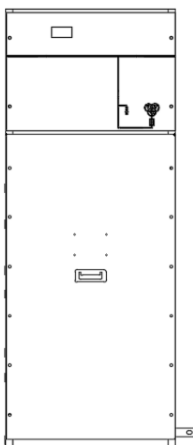
SV is a busbar sectionalizer unit with a circuit breaker and a three position disconnecter. It can close or open nominal working current to achieve the busbar connection or isolation. The circuit breaker can also break fault current to protect device and system.

Standard components

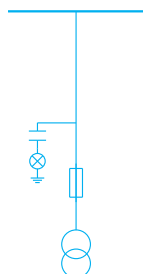
- 630A busbar
- Vacuum circuit breaker (with 1 closing and 1 tripping coil)
- Circuit breaker closing and opening knobs
- Three position disconnecter
- Mimic diagram with switch position indicator
- Density meter
- Enclosure
- Earthing busbar
- Operating handles (including spring charging handle)

Optional components

- Electric operating of the disconnecter
 - Earthing switch electromagnetic lock
 - Key-based mechanical interlock
 - Extension bushing
 - Extension busbar connector
 - Current transformer
 - Protection relay
 - Low power tripping coil
 - Low voltage compartment
 - Padlock of operating holes and knobs
 - Auxiliary contact:
Circuit breaker 2NO+2NC
Disconnecter 2NO+2NC
Earthing switch 1NO+1NC
Density meter contact 1alarm+1block
- Note: Please indicate if more aux. contacts are required.



Unit Apt



Unit Apt is a voltage transformer module without switch. This unit has no gas tank. The busbar is fully sealed and insulated, and the voltage transformer is connected with busbar through cable joint. It can be used for busbar voltage measuring, also can provide auxiliary power supply for control circuit.

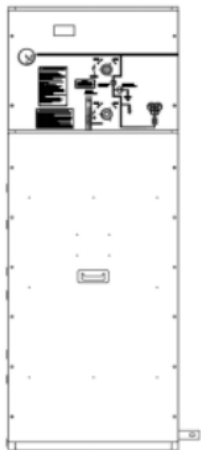
Standard components

- 630A busbar
- Voltage transformer
- Protection fuse
- Cable joint & accessories
- Mimic diagram
- Enclosure
- Earthing busbar
- Live display (with aux. contact 1NO)
- Cable door electromagnetic lock

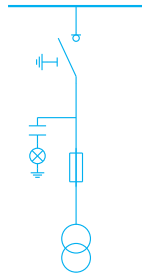
Optional components

- Extension bushing
- Low voltage compartment

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Unit Cpt



Unit Cpt is a voltage transformer module with a three position load break switch. This unit has gas tank with three position switch inside. The voltage transformer is connected at the line side of the switch through fully sealed and insulated cable joint. It can be used for busbar voltage measuring, also can provide auxiliary power supply for control circuit.

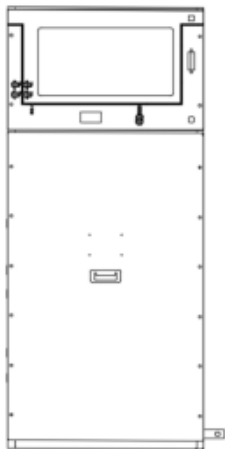
Standard components

- 630A busbar
- Voltage transformer
- Protection fuse
- Cable joint & accessories
- Three position load break switch
- Mimic diagram
- Enclosure
- Earthing busbar
- Operating handles
- Live display

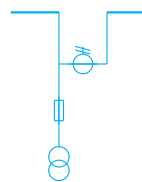
Optional components

- Side/Top extension bushing
- Extension busbar connector
- Low voltage compartment
- Electric operating of the main switch
- Padlock of operating holes
- Auxiliary contact:
Main switch 2NO+2NC
Earthing switch 1NO+1NC
Density meter contact 1alarm+1block

Note: Please indicate if more aux. contacts are required.



Unit M



Unit M is the metering unit, used for energy metering by installing voltage and current transformers. This unit is air-insulated, while for the busbar connection, there are two options available: with or without a gas tank.

Standard components

- 630A busbar
- Current transformer
- Voltage transformer
- Protection fuse
- Mimic diagram
- Enclosure
- Earthing busbar
- Live display (with aux. contact 1NO)
- Cable door electromagnetic lock

Optional components

- Extension bushing
- Extension busbar connector
- Low voltage compartment
- Energy meter
- Density meter (when available)
- Auxiliary contact:
Density meter contact (when available)
1alarm+1block

Note: Please indicate if more aux. contacts are required.

NG7-12~24 Medium Voltage GIS for Secondary Distribution

Selection Table of Modular Units

Single line diagram							
Unit code		D	C	V	F	Apt	Cpt
Dimension (width×depth×height)		375×750×1600	375×750×1600	420×750×1600	420×750×1600	600×900×1600	600×750×1600
Main configuration components	Load break switch /Disconnecter		•	•	•		•
	Circuit breaker			•			
	Earthing switch		•	•	•		•
	Current transformer	○	○	○	○		
	Voltage transformer					•	•
	High-voltage fuse				•	•	•
	Live display	•	•	•	•	•	•
	Cable fault indicator	○	○	○	○		
	Lightning arrester	○	○	○	○		
	Gas-pressure meter	•	•	•	•		•

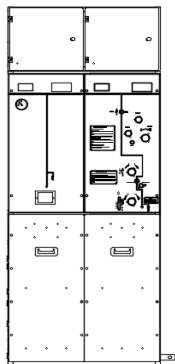
Single line diagram							
Unit code		SL	SV	M (w/o gas tank)	M (with gas tank)		
Dimension (width×depth×height)		750×750×1600	750×750×1600	12kV: 700×900×1600 24kV: 800×1100×1700	800×900×1600		
Main configuration components	Load break switch /Disconnecter	•	•				
	Circuit breaker		•				
	Earthing switch	•	•				
	Current transformer			•	•		
	Voltage transformer			•	•		
	High-voltage fuse			•	•		
	Live display						
	Cable fault indicator						
	Lightning arrester						
	Gas-pressure meter	•	•		•		

Note: 1. The height does not include low voltage compartment. Optional heights for the LV box are 350mm, 500mm and 600mm, which can also be customized according to the requirements.

2. "•" refers to standard configuration components, and "○" refers to optional configuration components.

NG7-12~24 Medium Voltage GIS for Secondary Distribution

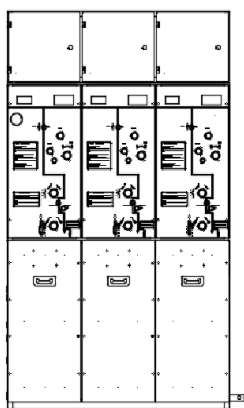
Compact Units Reference



Two-interval compact units

External dimensions: width×depth×height 750×750×1600(mm)

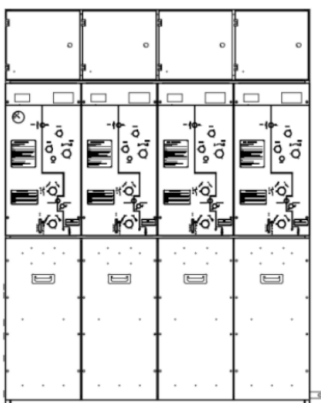
NG7-12/DF	NG7-12/CC
NG7-12/DV	NG7-12/CF
NG7-12/FF	NG7-12/VV
NG7-12/CV	



Three-interval compact units

External dimensions: width×depth×height 1125×750×1600(mm)

NG7-12/DFF	NG7-12/CCC
NG7-12/CCF	NG7-12/CFF
NG7-12/FFF	NG7-12/CCV
NG7-12/CVV	NG7-12/VVV
NG7-12/VFF	NG7-12/VVF



Four-interval compact units

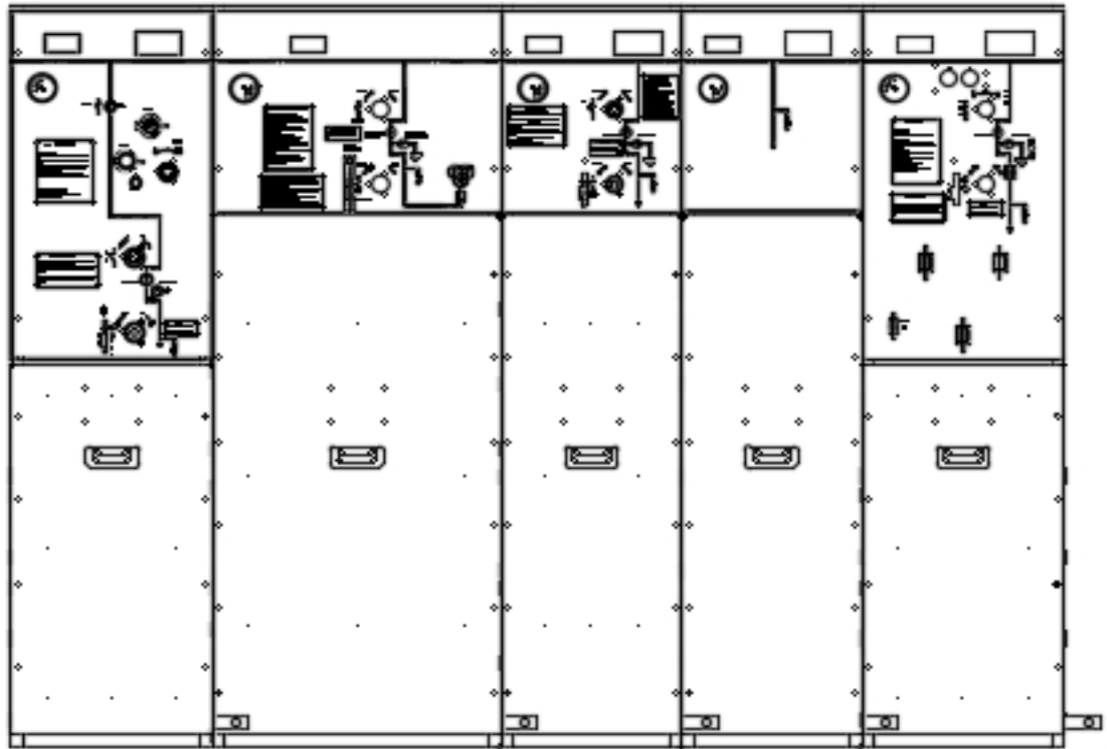
External dimensions: width×depth×height 1500×750×1600(mm)

NG7-12/CCCC	NG7-12/CCCF
NG7-12/CCFF	NG7-12/CFFF
NG7-12/FFFF	NG7-12/CCCV
NG7-12/CCVV	NG7-12/CVVV
NG7-12/VFFF	NG7-12/VVFF

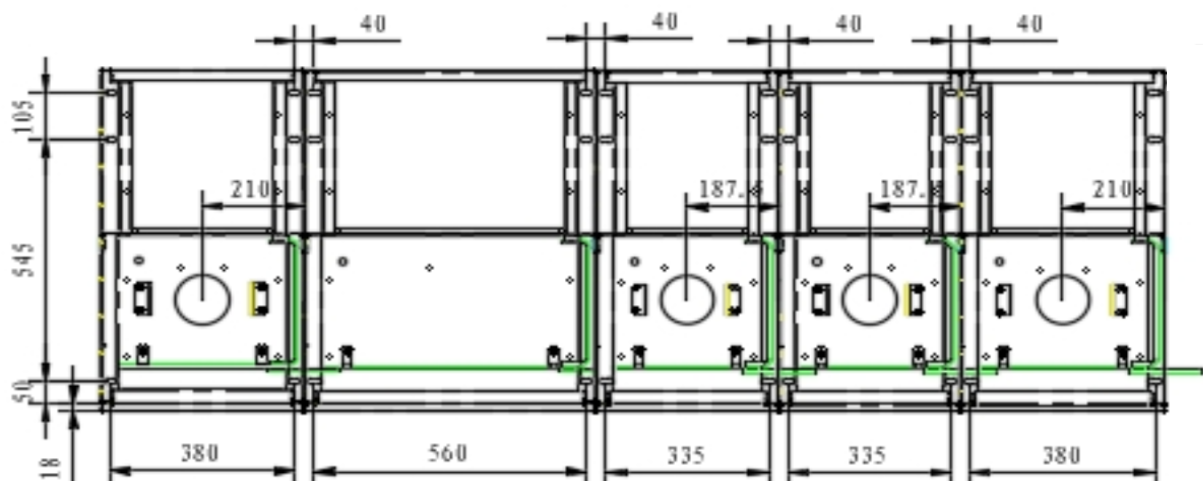
NG7-12~24 Medium Voltage GIS for Secondary Distribution

Outlook and Foundation for Reference

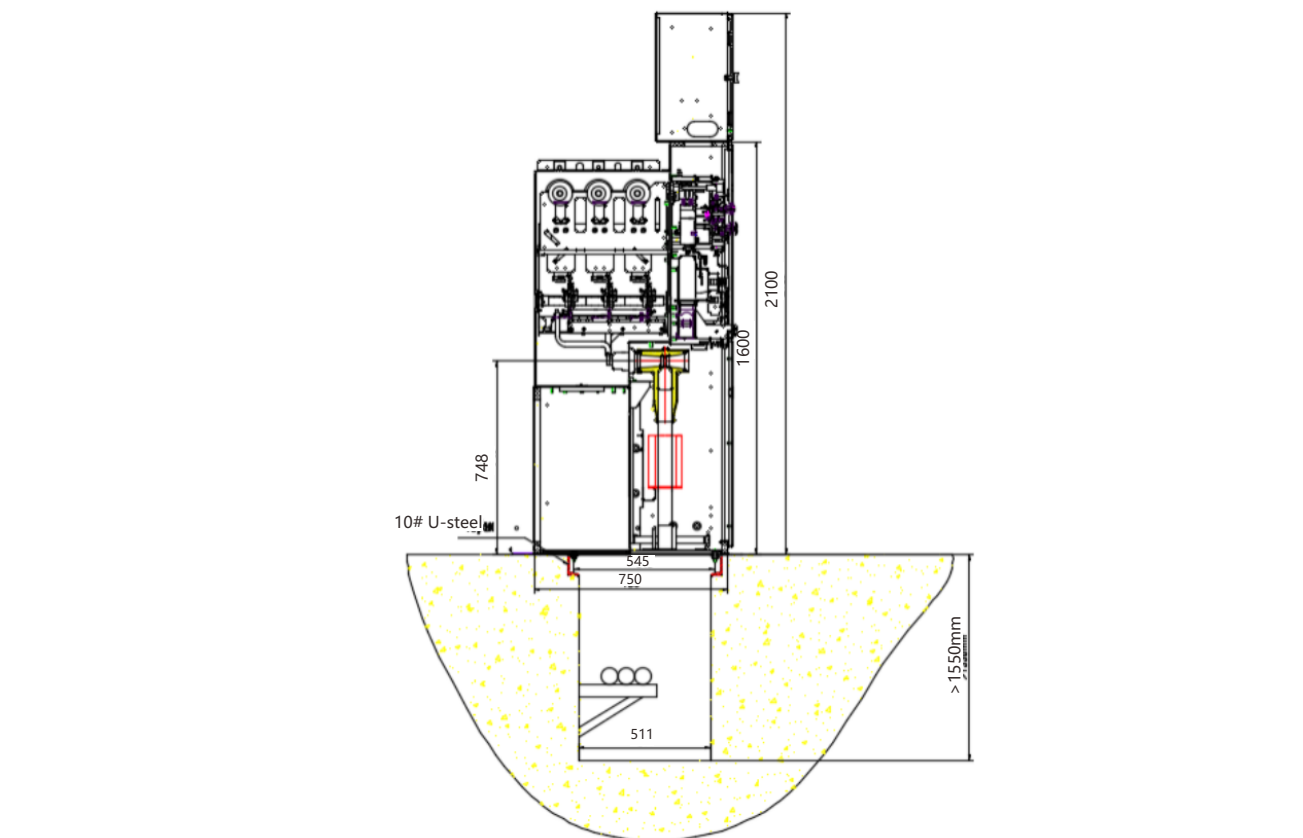
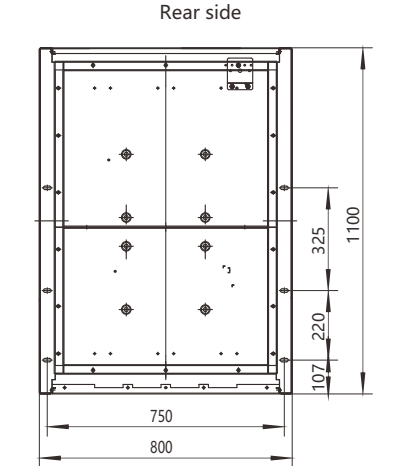
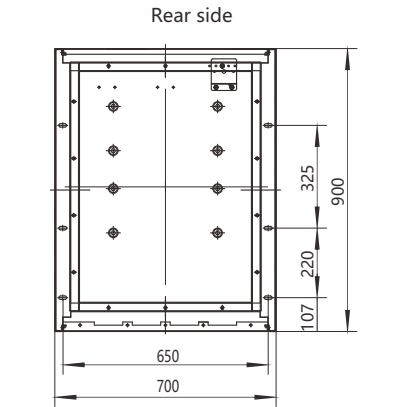
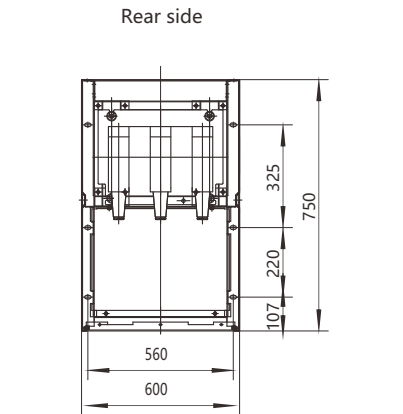
Outlook V+Cpt+C+D+F



Foundation V+Cpt+C+D+F



NG7-12~24 Medium Voltage GIS for Secondary Distribution



NOTE: Drawings here are only for reference.
Please refer to specific project drawings for details.

NG7-12~24 Medium Voltage GIS for Secondary Distribution

Accessories and Auxiliary Components



High voltage fuse

The high voltage fuse, as an external part of the gas tank, is installed in the insulating puller, which is convenient for replacement. The fuse striker and the switching mechanism are interlocked. While any phase fuse blows, and the striker will trip the switch. The selection of fuse shall be in accordance with IEC 60282-1. The rated current of the fuse needs to match the capacity of the transformer. The following table lists the fuse selection for reference.

Rated capacity of transformer (kVA)	25	50	75	100	125	160	200	250	315	400	500	630	800	1000	1250
Fuse current (A) 7.2kV	6	16	16	25	25	25	40	40	50	50	63	80	100	1250	
Fuse current (A) 12kV	6	6	10	16	16	16	25	25	25	40	40	50	63	80	100
Fuse current (A) 17.5kV	6	6	6	10	10	10	16	16	25	25	25	40	50	50	63
Fuse current (A) 24kV	6	6	6	6	10	16	16	16	16	25	25	25	40	40	50



Protection relay

The protection function of the circuit breaker unit is realized through a protection relay. The device detects the fault current signal via the current transformers and then outputs a tripping command to the tripping coil, which drives the circuit breaker to open the circuit.

Chint can install different functional protective relays according to requests. For typical ring main lines, NZB7011 is provided. This relay has the functions: 50, 51, 50N, 51N, 67, 27, 59.

Other components

Chint will provide matching optional components according to different user requirements, including but not limited to cable accessories, lightning arresters and instrument transformers, etc.



Front cable joint



Rear cable joint



Lightning arrester



Short circuit and earth fault indicator



Voltage transformer



Ring type current transformer



Open-type current transformer

NG7-12~24 Medium Voltage GIS for Secondary Distribution

Cable Joint Installation Schematic



Outdoor application



On request, NG7-12~24 can be equipped with an enclosure, which can be applied to outdoor applications. Inside is the switchgear following customized configuration, and the enclosure dimension is designed in according to different requests.

The protection degree of the enclosure can be up to IP54.

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