



GIS

Gas Insulated Switchgear 420kV



Growing into a World's Best from Nation's First

The company serves its customers!

Leading company in the industrial electric, electronic, materials and energy field following its separation from LG in 2003. LS aims to develop into a company that provides its clients with total solutions, contributes to the overall society, and offers a business environment where employees can realize their dreams.



LSIS

Innovators in industrial electrical and automation systems

LSIS goes toward a global leading company in the Industrial electric & Automation field, providing customers with the total solution.

We provide customers with distinctive and eco-friendly products & Win-Win Strategy in the various fields such as Power Transmission & Distribution ; Electric Equipment ; Automation Equipment & Systems and Smart Grid.

LSIS

- **LS Metal**
- **LS Mecapion**
- **LS Power Semitect**
- **LS-Sauter**

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Modular Design

With only a few modules. All typical configuration can be realized



Economical efficiency

Compact design can reduce space requirement and operating costs.
Modular system cuts construction time and dramatically save economical costs.



Reliability

Maximize system security with a minimum of maintenance.



Convenience

Modular system makes our GIS easier to operate.



High appliance

Modular system can satisfy customer's various needs and lay out requests

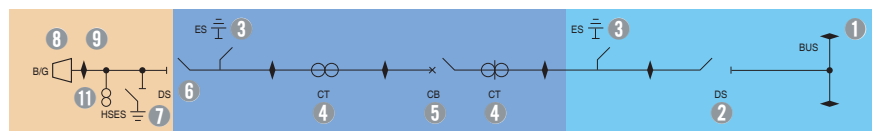
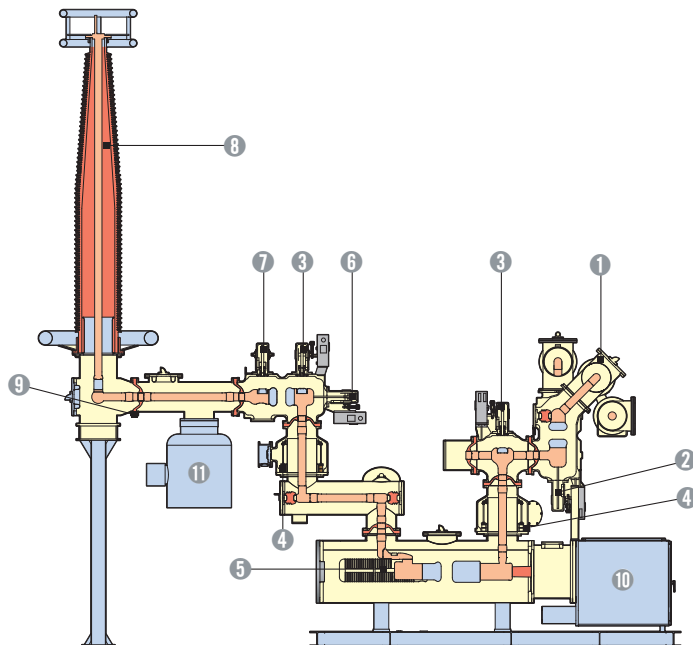


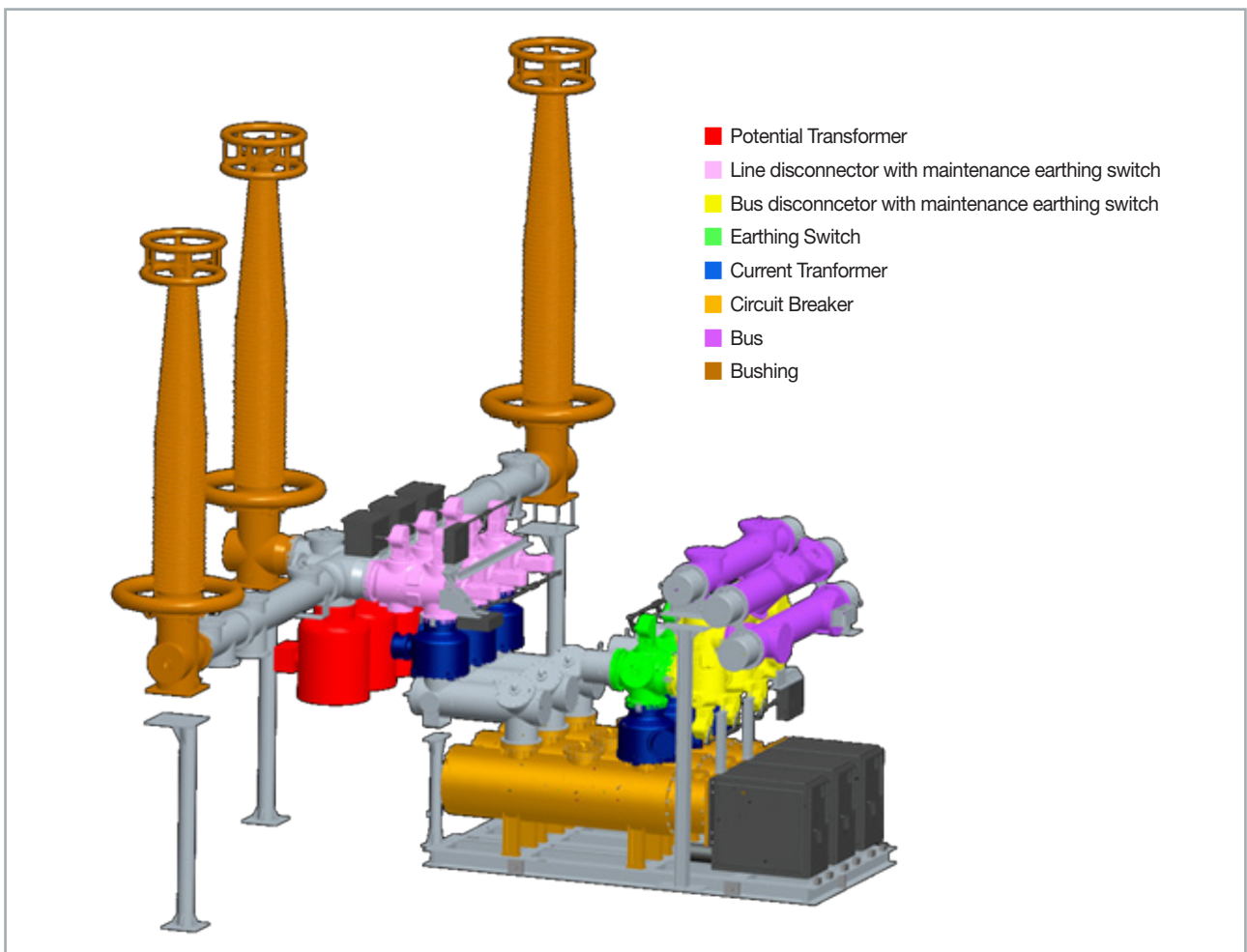
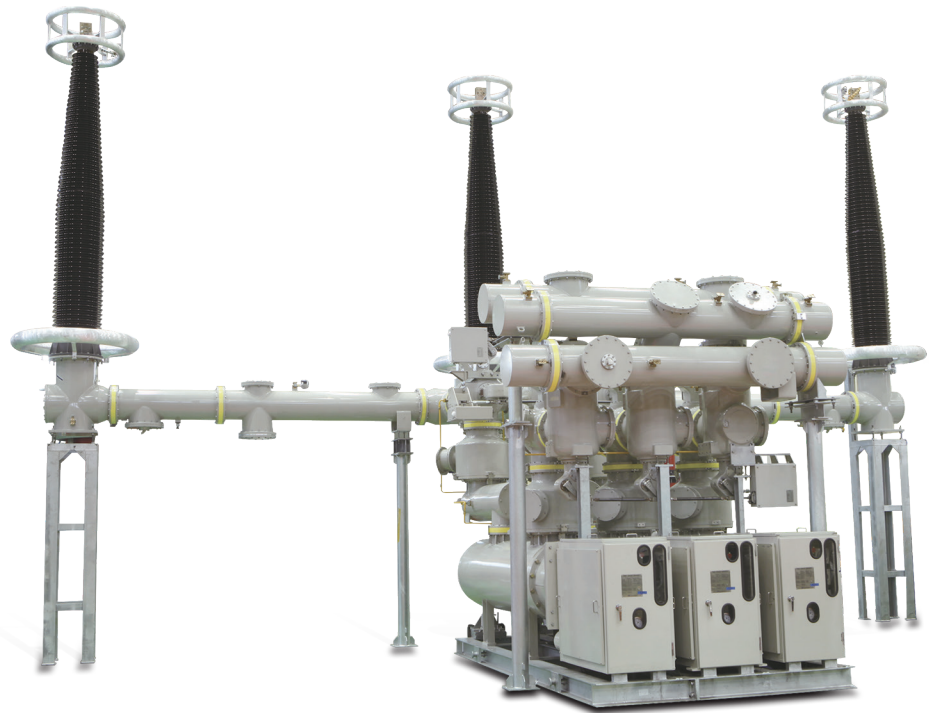
Environmentally friendly

Significant downsize for Compact size & Minimize the usage of SF₆ gas

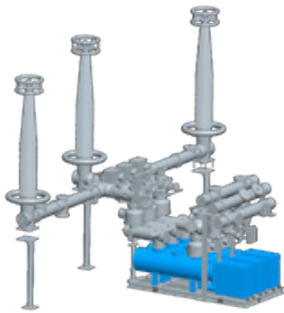
420kV GIS Construction & Single Line Diagram

- ① Main bus
- ② Bus disconnector
- ③ Earthing switch for maintenance
- ④ Current transformer
- ⑤ Circuit breaker
- ⑥ Line disconnector
- ⑦ Earthing switch for making-proof
- ⑧ Bushing
- ⑨ Insulating spacer
- ⑩ Operating mechanism for CB
- ⑪ Potential Transformer





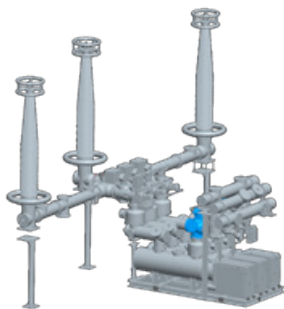
Compartments



Circuit Breaker

Our Circuit breaker has highly efficient arc quenching performance and the insulation characteristics of the SF₆ gas based on the reliability design.

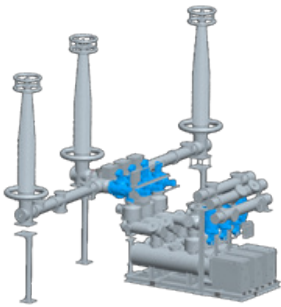
We adopts the puffer-type, which has a simple structure and operation principle.



Earthing Switches

The Earthing switches are operated by motor charged spring, motor or manual-type, accordingly to the their performance case. There are two different types of earthing switches : The earthing switch for device's maintenance and the high-speed earthing switch for insertion into a circuit that has been accidentally energized.

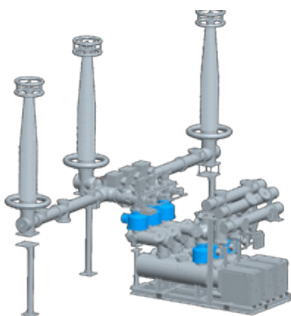




Disconnecting Switch

Our Disconnecting Switch is easy to operate and equipped with safety features based on the reliability design.

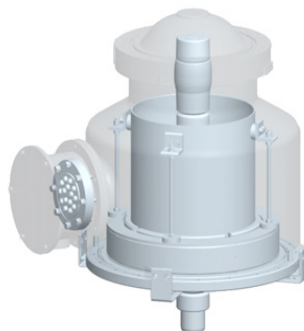
It is used to segment the charge current section partitioned by the circuit breaker and operated by an electric motor



Current Transformer

Current transformer protects the device by sensing any fault current in the line.

It is important to detect fault current, and it takes pre-caution against possible accident.



Technical Data



Rated voltage		kV, rms	420
Rated short-time current		kA, rms	50
Rated short-time		sec	3
Rated breaking current		kA, rms	50
Rated current		A, rms	4000
Rated frequency		Hz	50
Rated making current		kA, peak	125
Rated breaking time		cycle	2
Power Frequency Withstand Voltage	Common	kV, rms	650
	Across the isolating distance	kV, rms	815
Lightning Impulse Withstand Voltage	Common	kV, peak	1425
	Across the isolating distance	kV, peak	1425(+240)
Rated operating sequence		-	O - 0.3sec - CO - 3min - CO
Phase arrangement	Main Bus	-	Single phase segregated
	Feeder Bus	-	Single phase segregated
Operating Mechanism	CB	-	Hydraulic
	DS	-	Motor
	ES	-	Motor
Applicable Standard		IEC 62271-100 / IEC 62271-203 / IEC 62271-102 / IEC 60694	

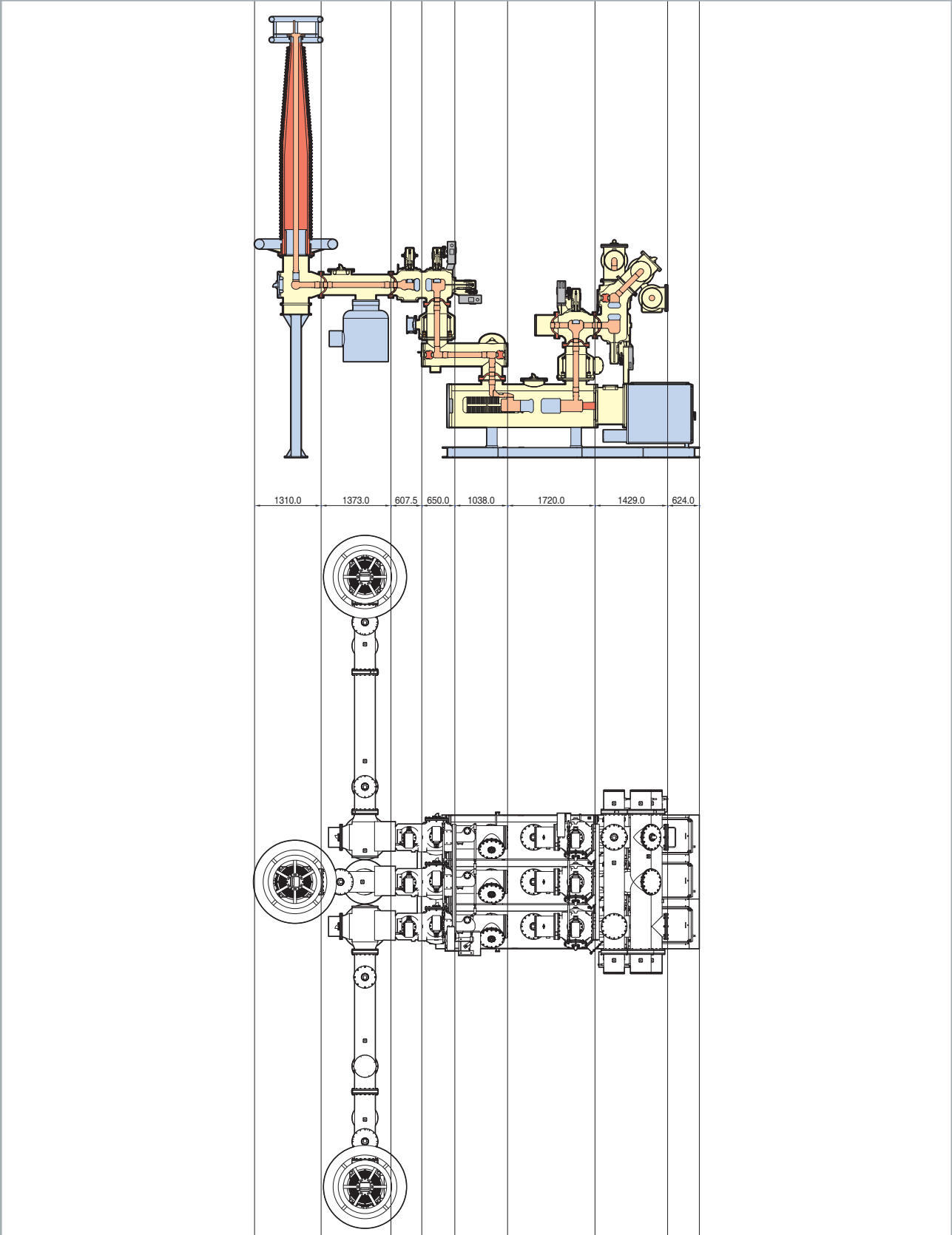
Quality Assurance

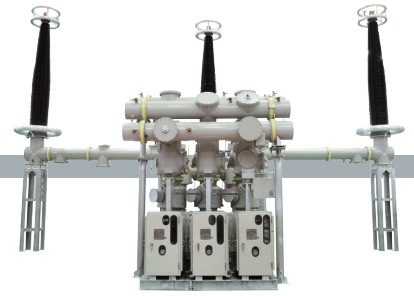
The Quality Assurance Program by LSIS provides strict quality control from promotion, manufacture and delivery in compliance to ISO 9001. It is our goal to provide world-best product to our customers, only to be done by maintaining the latest quality system and service

The outstanding quality of our products is based on manufacturing in accordance with international standards. We also provide the Total Solution that encompasses design, engineering, efficient production and installation as well as highly accurate testing and analysis of power equipment



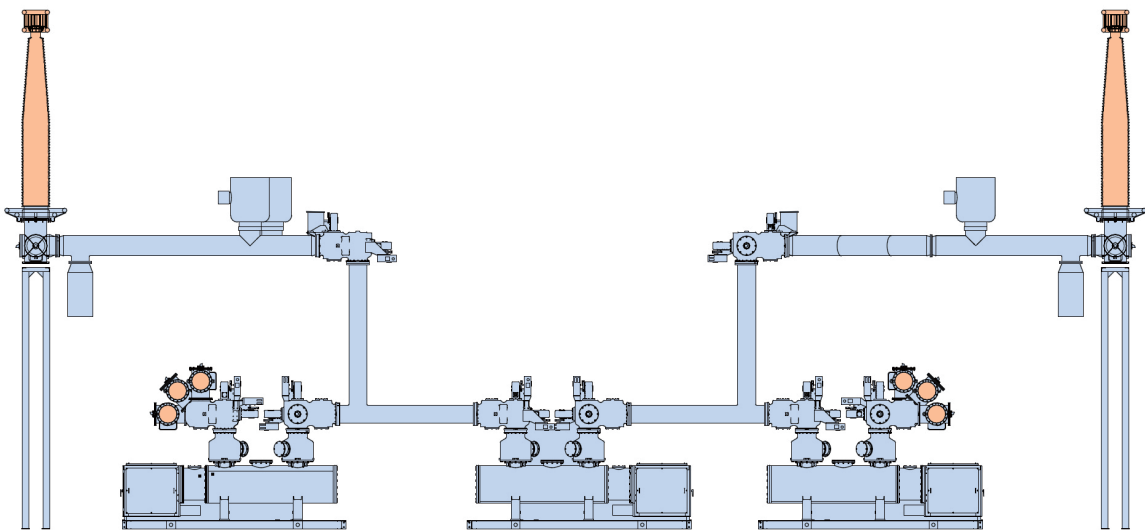
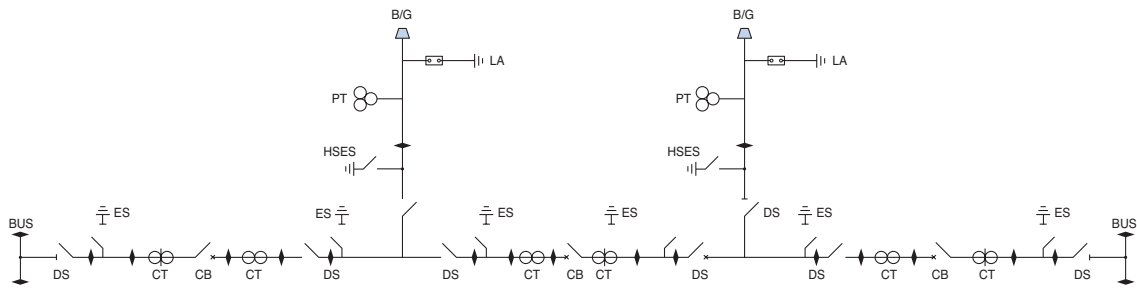
Layout 420kV Typical Bay Arrangement





Layout - Typical Bay Arrangement

Double Bus Feeder (1 1/2 CB Bushing Type)



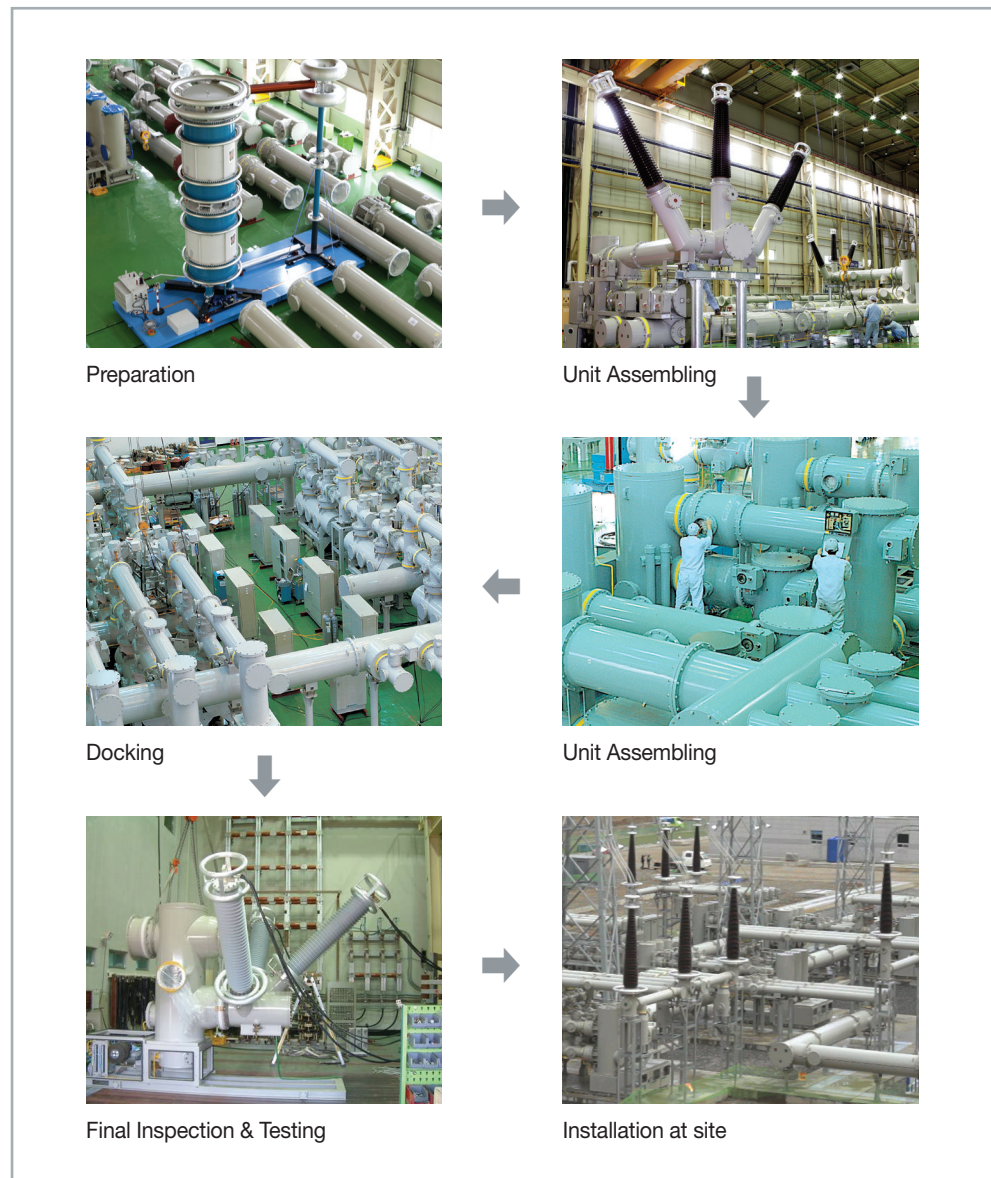
Manufacturing

Manufacturing Process

Each stage is strictly controlled for the quality and all the assembly works are done in a clean room to ensure the highest level of insulation of the GIS.

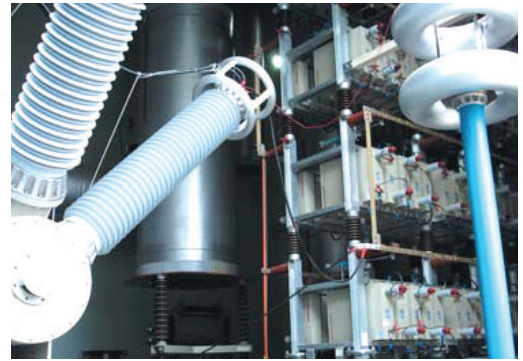
The GIS is completely assembled in an assembling room according to the customer's layout and it shall be done the final routine test and assembling check in accordance with customer's requirement to prevent every possible failure. Only those products that have passed the test are delivered to our customer.

GIS Manufacturing



Research & Development

LSIS obtained certification about major research and development tasks in some leading countries and continues to invest in developing the best GIS product for our customers worldwide. To produce highest quality GIS, optimized design is conducted through 3D electric field analysis, arc diagnosis and structure & temperature analysis.

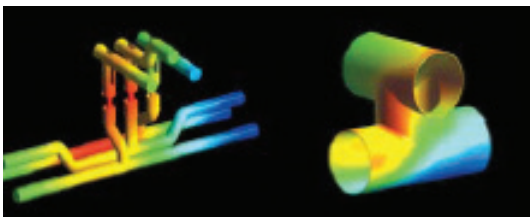


Electro Technology R&D Center

PT&T Power Testing & Technology Institute

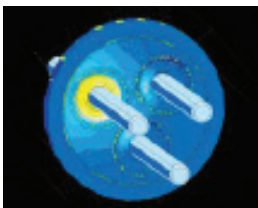


Multi-Physics Technology



DS/ES unit temperature prediction using electro-Magnetic field and temperature flow analysis.

Optimized Electric Field Control



3D electric field analysis is used for effective space design and optimization

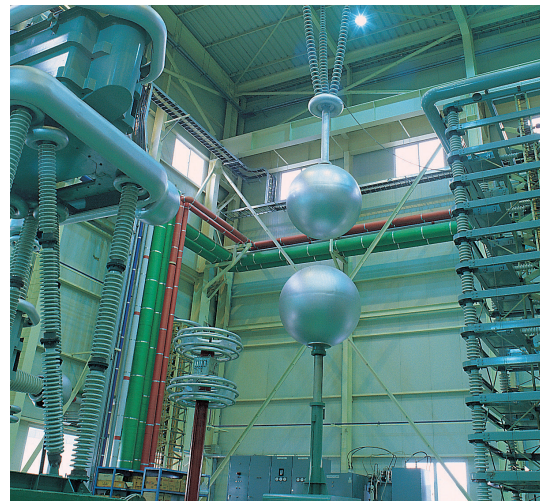
Interruption Performance Analysis



Arc movement prediction to evaluated breaker capability

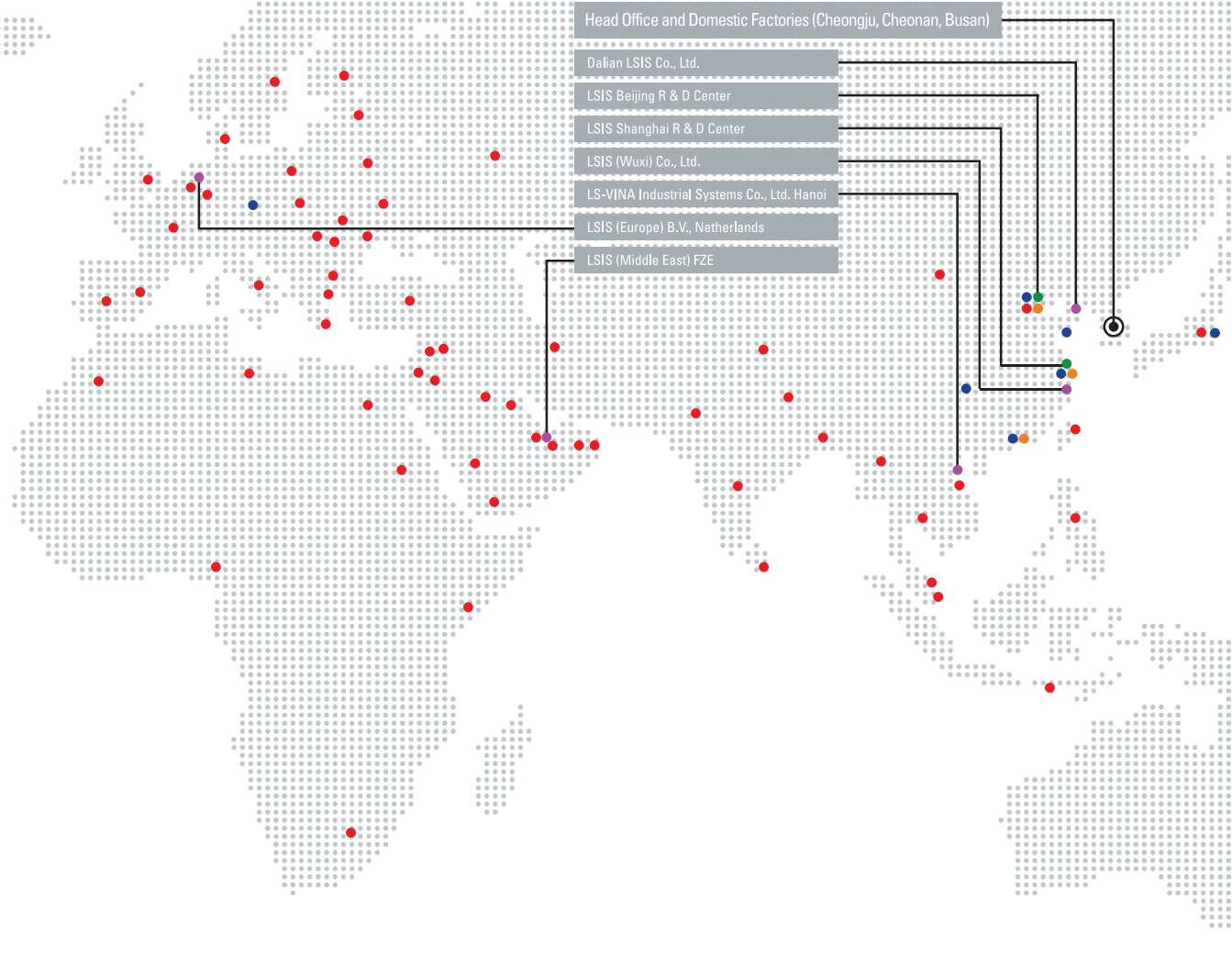


PT&T is a KOLAS-qualified (Korea Laboratory Accreditation Scheme) accredited testing laboratory and provides worldwide testing service with its 1,600MVA-capacity high power laboratory, high voltage laboratory and reliability testing laboratory.



High Voltage Test | Impulse Test

Worldwide Network



LSIS offers unique value proposition

Strong commitment to R&D with numerous international certifications and approvals

- Equipped with unparalleled R&D capability allowing fast and flexible product development; ready to assist customers if they want to export current system to other regions
- Achieved numerous international approvals

Wide assortment of products with unparalleled cost competitiveness

- Cutting-edge technology with wide assortment from low and medium to high voltage for circuit breakers
- In-house power testing lab (PT&T) for quality assurance

Global infra and networks enabling JIT manufacturing and supplying

- Global warehouses – Korea, China, Netherland, UAE and America
- Sales and service networks in all over the world.
- 7 manufacturing sites in Korea/China/Vietnam

Readily available technical support and well designed training programs

- On-site technical support and on-line web-based assistance to meet end-customer needs
- Tailored training programs, to be offered via multiple channels

LSIS engages in business activities around the world. The company has a global network that includes four overseas corporations and eight overseas branches. It also has 224 business partners in 77 countries.

● Overseas Corporations	Dalian and Wuxi (China), Hanoi (Vietnam), Dubai (UAE), Europe B.V (Netherlands)
● Overseas Branches	Shanghai, Beijing, Guangzhou, Chengdu, Qingdao (China), Tokyo (Japan), Germany, India
● Global Service Centers	Shanghai, Beijing, Guangzhou (China)
● Global R & D Centers	Shanghai, Beijing (China)
● Presence Internationally	77 Countries



PT&T Power Testing & Technology Institute

We are the first domestic private enterprise with a short-circuit test equipment of 1,600MVA capacity, high-voltage test equipment, reliability test equipment and a KOLAS recognition, providing global- standard test assessment services. The institute enjoys a global public confidence, through strategic cooperation, and reciprocal recognition of test reports, with UL (American safety standards), CE (EU recognition logo), The Netherland's KEMA, Italy's CESI and other overseas accredited testing institutes.



Safety Instructions

- For your safety, please read user's manual thoroughly before operating.
- Contact the nearest authorized service facility for examination, repair, or adjustment.
- Please contact a qualified service technician when you need maintenance. Do not disassemble or repair by yourself!
- Any maintenance and inspection shall be performed by the personnel having expertise concerned.



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Specifications in this catalog are subject to change without notice due to continuous product development and improvement.