FUTURING SMART ENERGY

www.lsis.com



GIS

Gas Insulated Switchgear

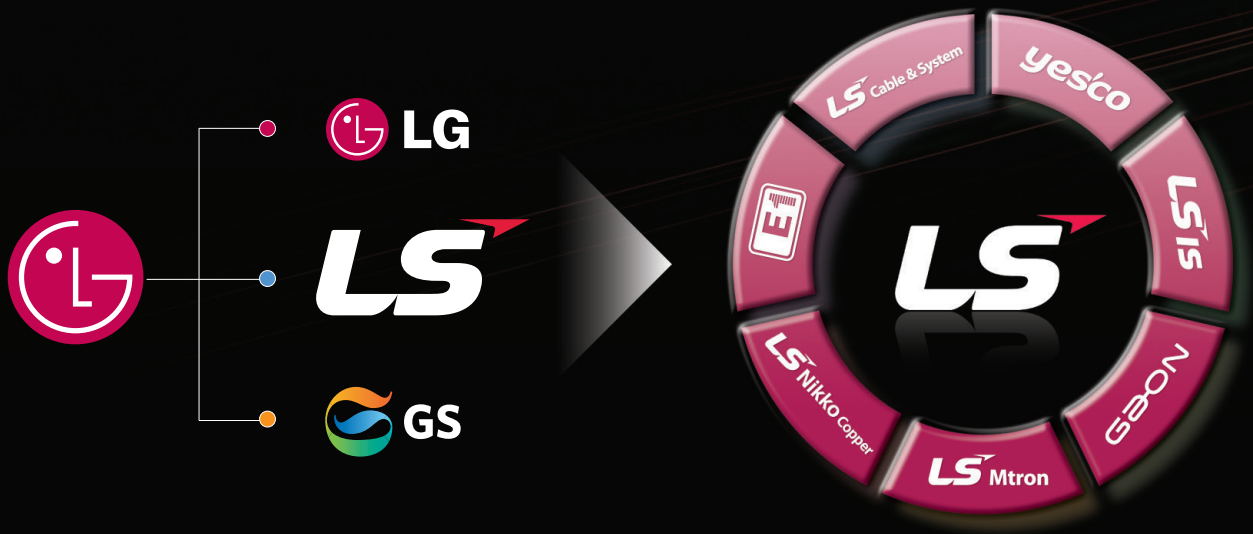
LS IS



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.





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.

LS IS

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

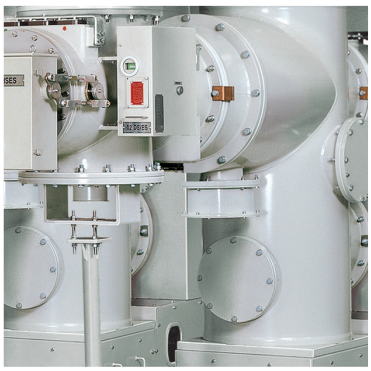
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Gas Insulated Switchgear

Satisfying your various needs





LSIS's indoor or outdoor GIS are generally selected for many types of power plants and substations to satisfy customers various needs. By opening and closing the Circuit Breaker under normal and fault condition, customer can prevent & protect the implemented facilities over the whole system.
LSIS's GIS complies with the latest international standards & requirement by performing global test laboratory within the range from 25.8kV to 420kV. LSIS's compact size GIS is comparable with other manufactures within the same rating and we can provide economical & feasible solutions for the customers who has only limited space for GIS.



What's in it for customer?

Compact design to save space

A design highly optimized to provide maximum efficiency mechanically and electrically, the 3-phase common encapsulated construction with ideal combination of CB with CT, DS and ES are built into realization.
This spacesaving design, is ideal for use in compact places especially in urban or industrial zone. It is also environment friendly with minimal SF_6 gas usage

High Reliability & Safety

Since the main parts of the switchgear are completely sealed in metal enclosure, GIS is less affected from pollution, climatic changes and dielectric deterioration in consequence of time than air insulated switchgear (AIS).
Our GIS is given early life test and full life test for custo-mers to ensure safety and reliability. Also, diffusion of accident can be prevented by robust gas barrier in case of failure or fault found inside of the GIS.

Long Life and Minimal maintenance Cost

From design to test operation, our GIS is fully tested and supervised to ensure maximum performance and highest level of quality. Built to last over 30 years, it provides long service life at the lowest maintenance Maintenance is not needed by customer and major inspection is performed 25 years after installation.

Fast Delivery and Easy Installation

With compact and modular design, 2 or 3 bays can be equipped as a single set to save time and cost, resulting faster production and delivery. Using the flange joint from each unit, the GIS can be easily installed and can be expanded without disconnecting power of neighboring module.



Compact design



Easy for Installation & Maintenance

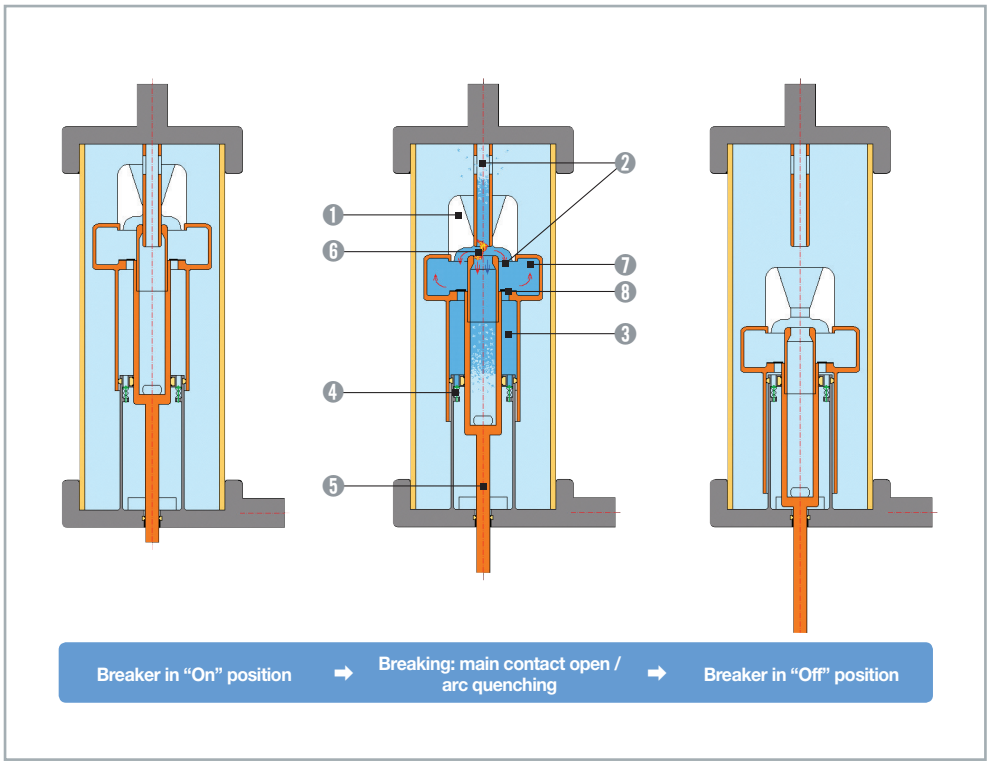


LSIS GIS is useful to use in urban-place

Breaking Design

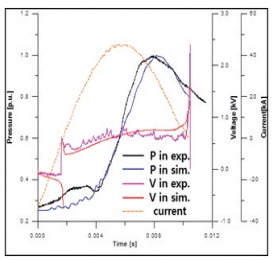
LSIS's circuit breaker uses superior insulation & arc quenching performance of the SF_6 gas and adopts the puffer and Self-blast, which has a simple operation principle and structure.

Puffer Assisted Self-Blast Breaker

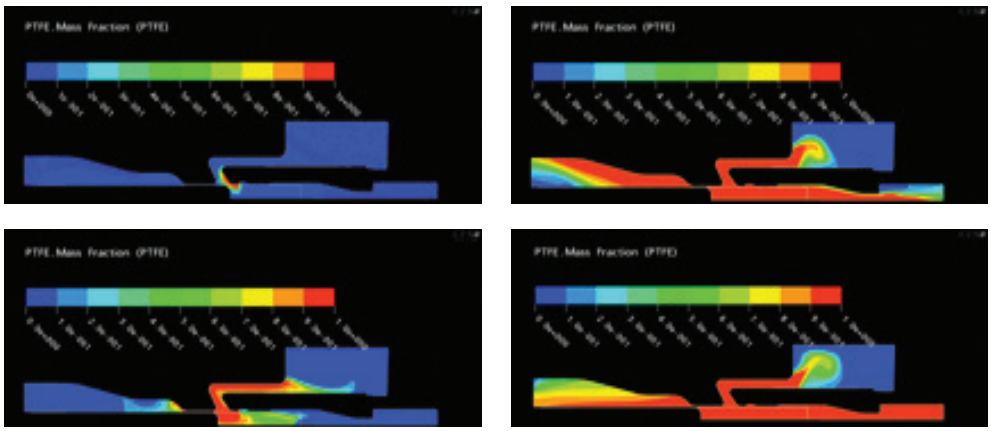


1. Nozzle
2. Arcing contact
3. Compress chamber
4. Puffer supporting
5. Cylinder rod
6. Arc
7. Thermal chamber expansion
8. Expansion chamber plate

Self-blast breaking test



before current zero, for arc-extinguish comparing the pressure rise of expansion chamber with arc-voltage



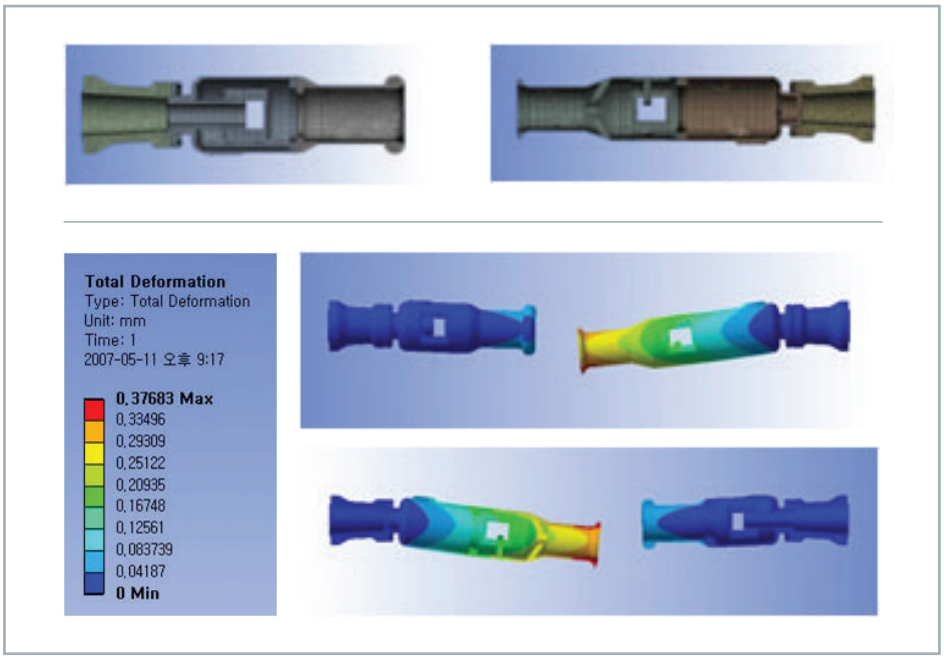
Self-blast breaking test

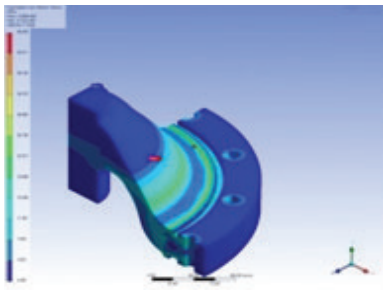
1. Arc energy modeling by considering the nozzle melting
2. When shutting off high current, PTFE + SF_6 gas are melted and flow backward into the expansion chamber and it causes pressure to rise
3. High current performance evaluation by calculating such as arc energy, pressure at current zero

Mechanical Design

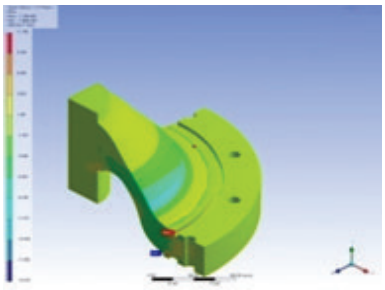
To maximize the mechanical safety of the GIS, values (mass, shape, stress, transformation, etc) of all parts of the GIS are precisely analyzed using the structure analysis programs and three-dimensional design.

Static-stress analysis

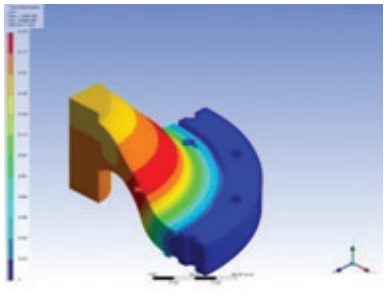




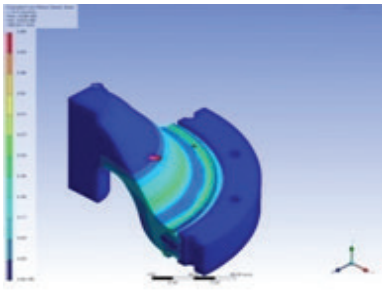
max. von Mises stress: 45.83MPa



max. shear stress: 11.79//-19.68MPa



max. deformation: 0.193mm

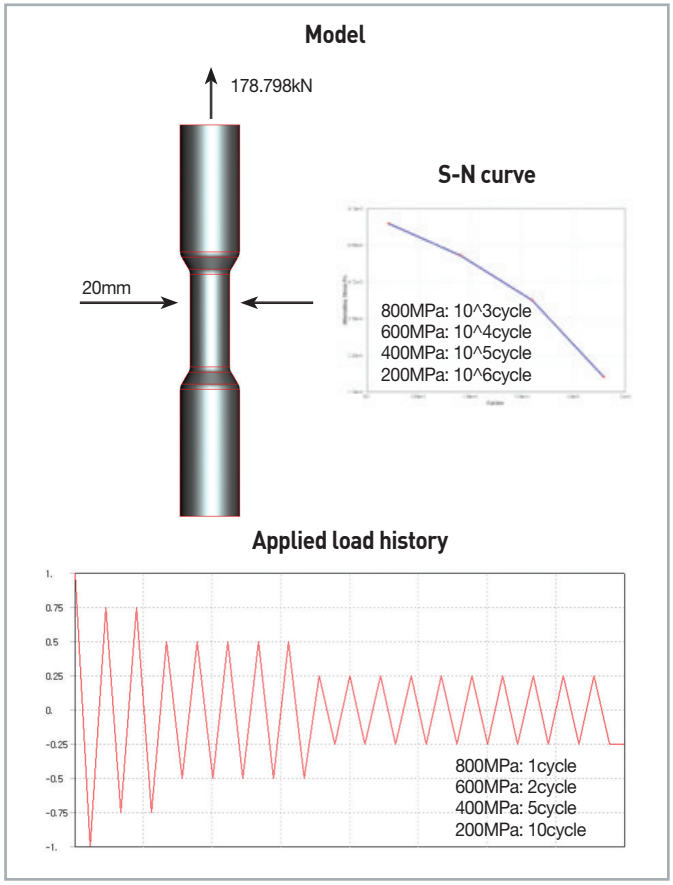


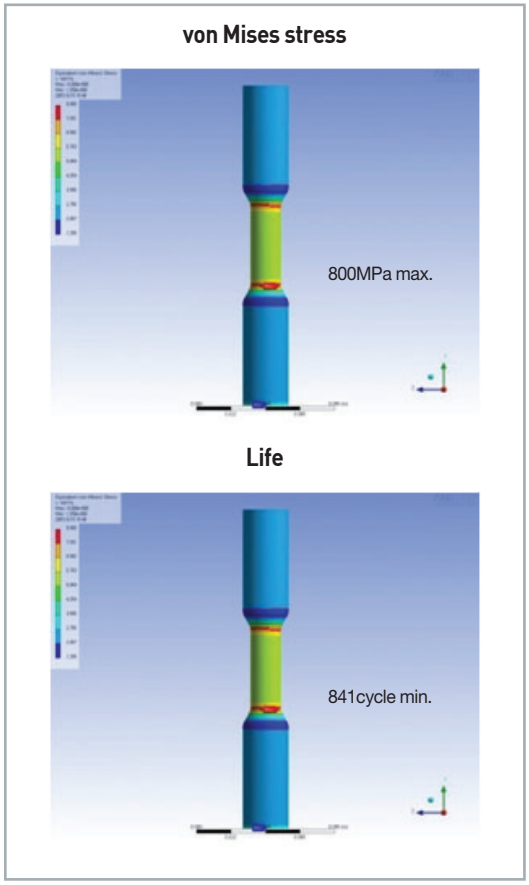
max. strain: 4676m/m

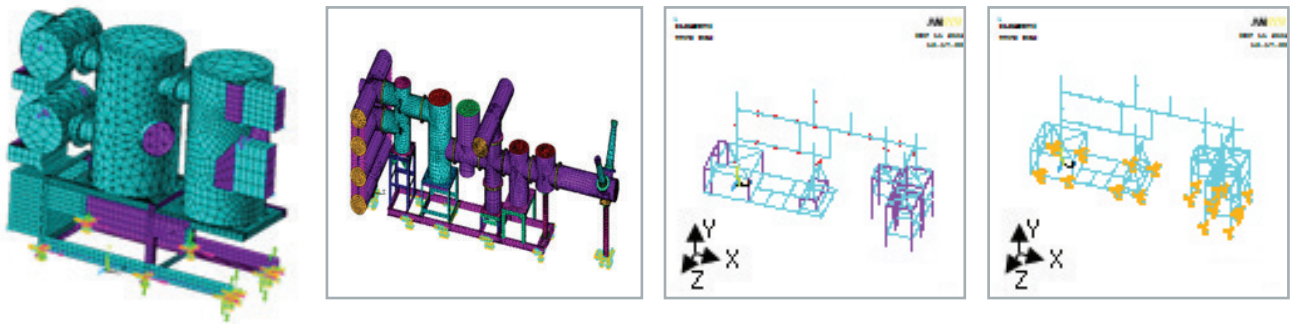
Mechanical Design

Fatigue / Vibration analysis

Obtain material properties for improved fatigue life and prediction by fatigue analysis



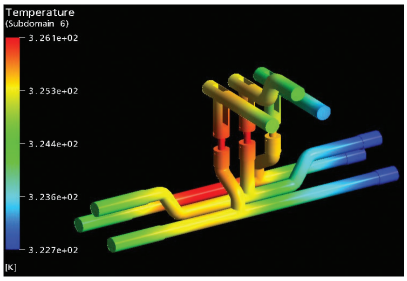




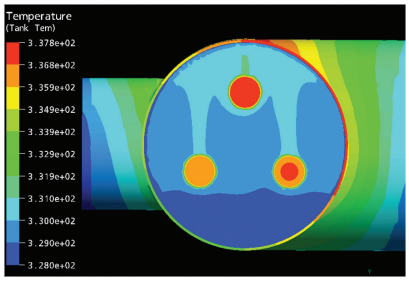
To verify the performance of vibration and seismic, Mechanical Design consider gravitational load, vertical load, wind load for getting GIS mechanical safety

Insulation Design

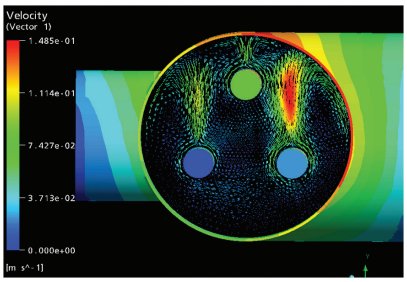
Coupling : magnetic field + temperature + heat flow



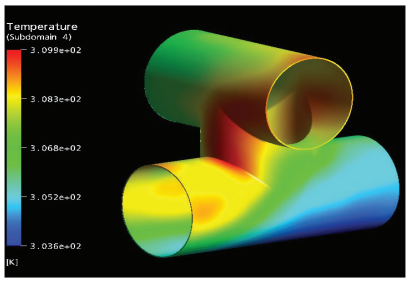
Temperature



Gas flow

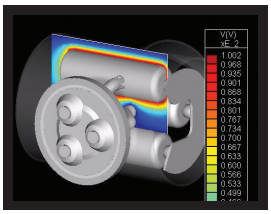


Velocity vector

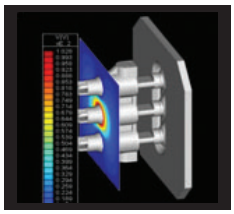


Temperature

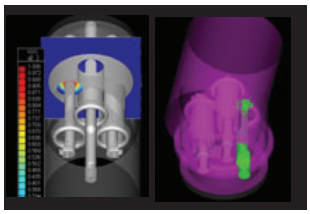
Three-Dimensional Electric Field Analysis



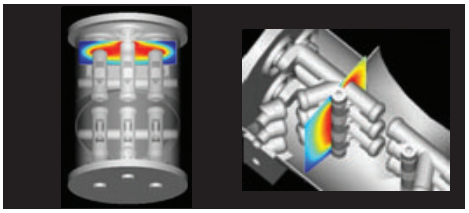
CB



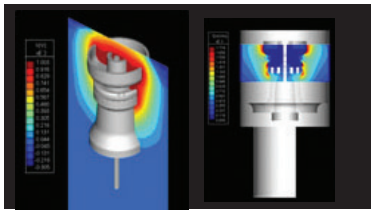
DS



CT

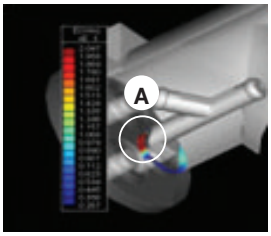


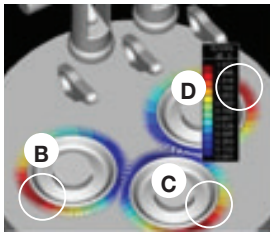
DS/ES



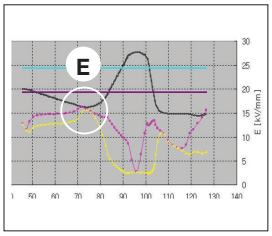
Insulator

The location of the maximum electric field





3D analysis

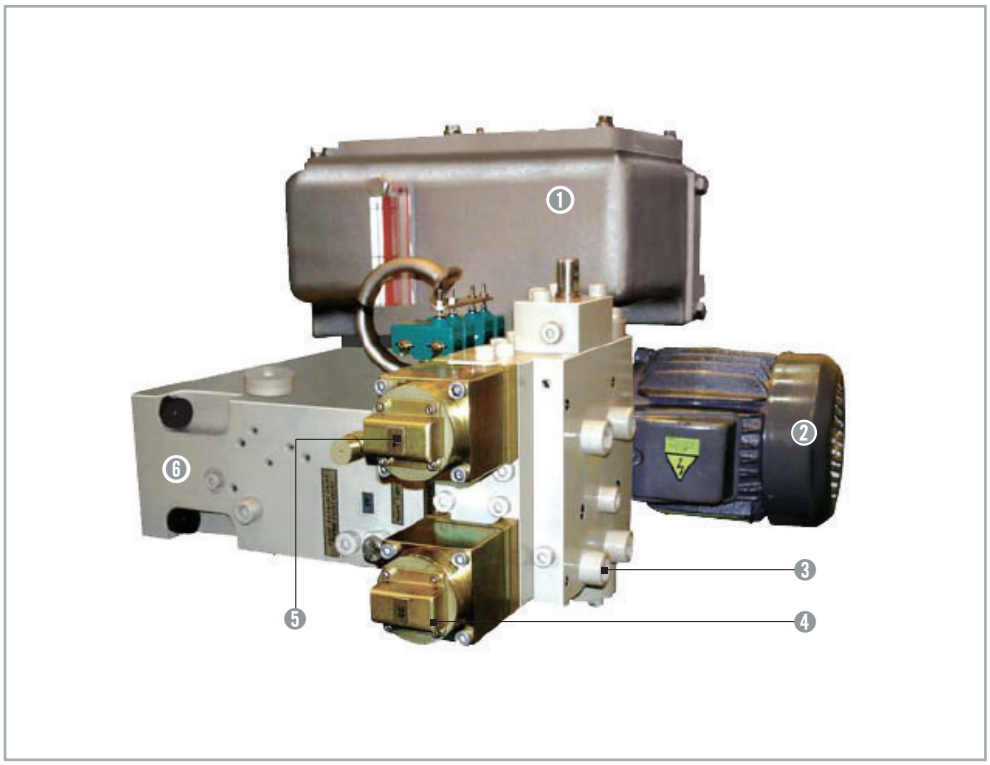


Comparison of Results

Mechanism Design

The operating mechanism for circuit breaker is hydraulic type or spring stored-energy type that is installed at the bottom of the in parallel, for manual operation and easy to check close-open status for convenient maintenance. The circuit breaker mechanism is composed of separate module which make it a simple design, highly reliable apparatus made from latest technology.
The lifetime of circuit breaker ensures over 10,000 use if the use of the parts is minimal. The circuit breaker mechanism minimizes the influence of temperature.

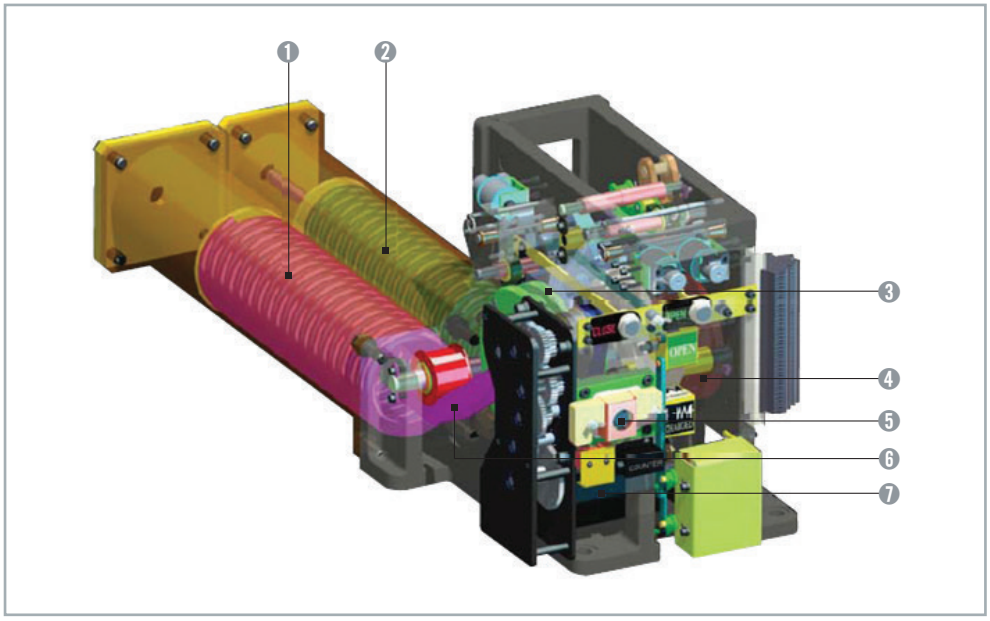
Hydraulic Mechanism



1. Oil tank
2. Motor
3. Pump value unit
4. Tripping coil
5. Closing coil
6. Hydraulic cylinder

Operation without Oil pressure recharging	O-CO-CO-CO
Recharging time (from lockout pressure to rated operating pressure)	Below 2 min.
Mechanical endurance (Guaranteed value)	20,000 operations (without oil leakage & deformation)
Service life	30 years

Spring Mechanism



1. Closing spring
2. Trip spring
3. Fly wheel
4. Trip latch
5. Closing latch
6. Closing chain
7. Motor

Operation without spring recharging	O-CO
Recharging time (from released spring force to charged spring force)	Below 15 sec.
Mechanical endurance (Guaranteed value)	15,000 operations (without oil leakage & deformation)
Service life	30 years

Spring Charging

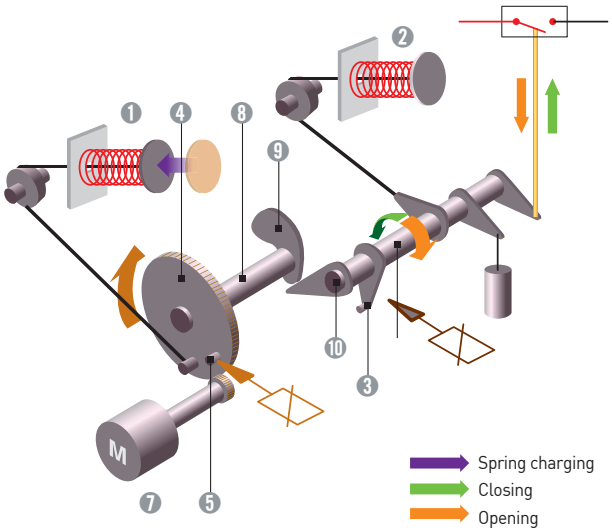
The motor(7) starts charging the closing spring(1) through the drive gears.
The fly Wheel(4) meets the closing latch(5).
Then, the motor is turned off by a control mechanism.

Closing

When the closing latch(5) is released by closing solenoid, the closing spring(1) rotate the fly wheel(4). The main cam(9) which is located on the closing shaft(8) with the fly wheel(4) makes the crank lever(10) rotate. The main shaft(11) is rotated and makes the CLOSE position, and simultaneously the trip spring(2) is charged until meets the trip latch(3).

Tripping

When the trip latch(3) is released by the trip solenoid, the crank lever rotates by the trip spring. And the main shaft(11) is free to rotate in the OPEN direction. At the end of the tripping operation, the rotation of the crank lever is decelerated by oil damper(12) and stopped.



PDPS (Power Equipment Diagnosis & Preventive System)

Through regular monitoring of major power equipment, accidents can be prevented and database management system of events and history of each unit support efficient management of power equipment

GIS / Tr, Switchgear



PD Diagnosis



Dissolve Gas Analysis

[Work

GIS /TR/ Switchg

1GBps Fiber Switched Ethernet

(DNP3.0 over TCP/IP)

PD DAU

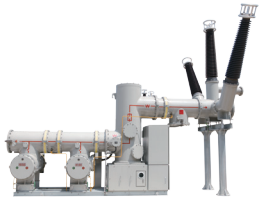




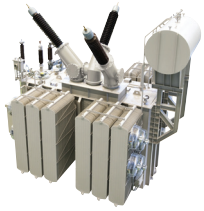
RT DAU



System Rack







GIS Diagnosis

- Partial Discharge (UHF PD)
- SF_6 Gas Density Monitoring
- Analysis of Circuit Breaker operating & Condition
- Cumulative breaking current
- Cable PD Monitoring
- Lightening Arrester leakage current

Transformer Diagnosis

- Oil contained Gas concentration
- Insulated Oil / Winding temperature
- FAN driving current / time
- PUMP driving current / time
- OLTC operating current / time

Diagnosis HMI



statiom]



Mold Tr Diagnosis (PD, Temp)



Switchgear Diagnosis (PD, Temp)

ear Diagnosis HMI

100MBps Switched Ethernet

Protocol based on TCP

SD DAU





UHF Sensor



VHF Sensor



IR Sensor



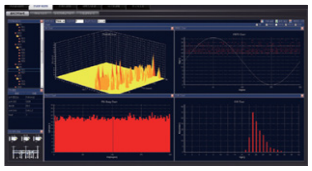


Switchgear Diagnosis

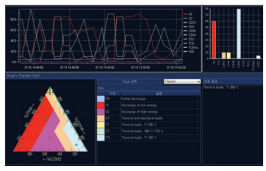
- UHF PD Diagnosis (Inside of the PNL)
- VHF PD Diagnosis (Cable)
- Contactless IR Temp Diagnosis (Phase Temp)
- Contact Temp Diagnosis
- Thermo-graphic Diagnosis

PDPS (Power Equipment Diagnosis & Preventive System)

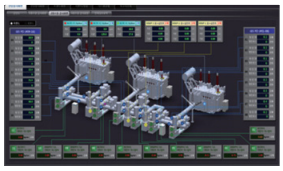
Major monitoring and Supporting report



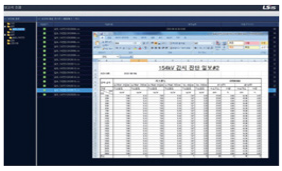
GIS PD Diagnosis HMI
- Upgrade Reliability for using Neural Network / Fuzzy Algorithm
- Visual Diagnosis function providing 2D/3D chart
- PD Pattern by Sensor & Event Filtering Function



TR Multi-Gas Diagnosis HMI
- TR Degradation Diagnosis Function for using Gas Density
- Easy for using in-put
- Quick search time to be judged immediately enter the gas concentration



GIS & TR Diagnosis HMI
- GIS Partial Discharge
- GIS Gas Density
- Lightening Leakage
- TR Oil- Dissolved Gas
- Abnormal Temperature (Oil Temp / Coil Temp)
- TR .FAN Group (Operating Current /Time)
- OLTC (Operating Current / Time)

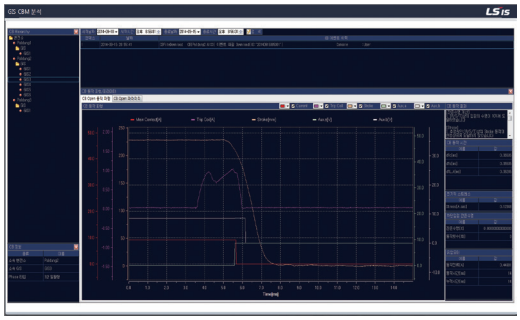


Total Diagnosis & Report
- Diagnosis by Sensor & Period
- Day / Month / Year Trend Diagnosis
- Max / Min/ Average statistics by Period
- Providing of the Trend data Expansion & Reduction
- Report by Excel Export

CB Mech. Operating Diagnosis

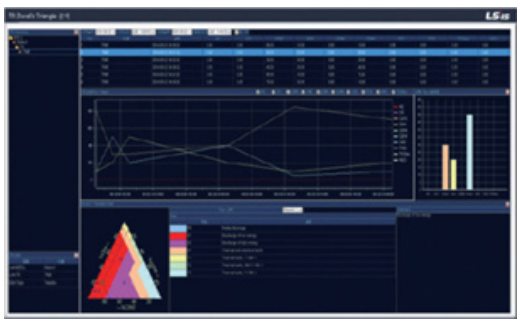


CB operating Diagnosis HMI
- CB operating assessment & specific Wave
- CB braking contact life



- Gas density
- Oil-motor
- Saving & Management of the CB Operating

TR Duval's / Dissolve Gas analysis



TR Multi-Gas Diagnosis HMI
- TR Degradation Diagnosis Function for using Gas Density
- Easy for using in-put



- Quick search time to be judged immediately enter the gas concentration

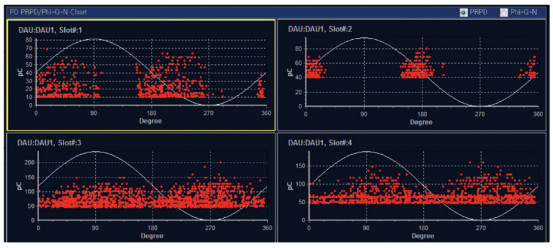
PD Data Diagnosis for Using Neural Network/Fuzzy Algorithm



GIS PD Diagnosis HMI

- Upgrade Reliability for using Neural Network / Fuzzy Algorithm
- Visual Diagnosis function providing 2D/3D chart
- PD Pattern by Sensor & Event Filtering Function

Multi Channel PD Diagnosis



Switchgear / Mold TR Diagnosis

Switchgear HMI



Mold TR HMI



Neural Network / Fuzzy Algorithm



Temp Trend & Library



GIS Line-Up

GIS

25.8/36kV

72.5kV

145kV





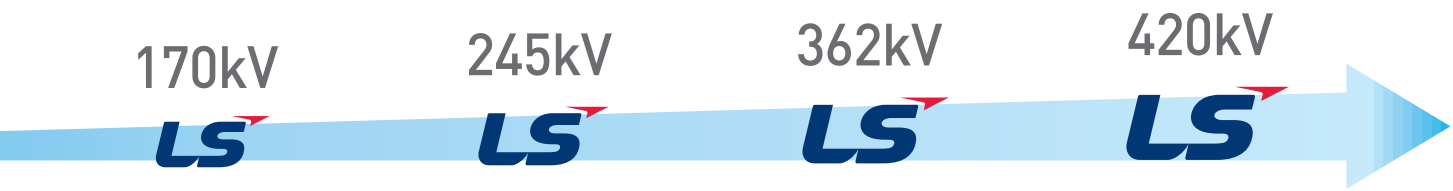


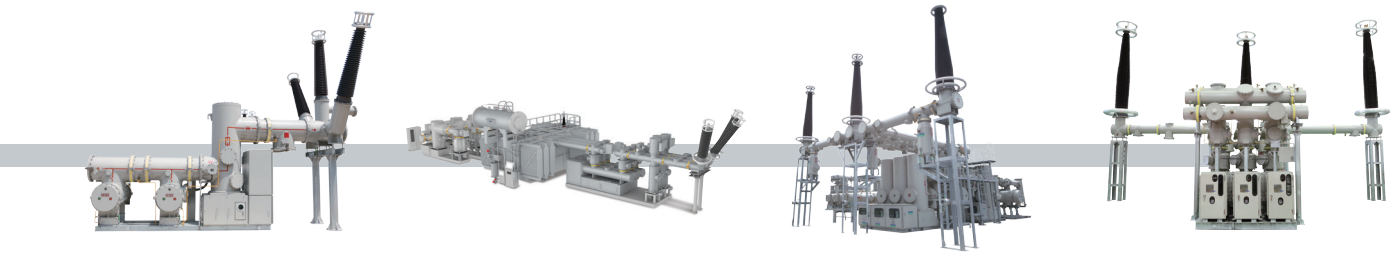
Rated voltage (kV)	25.8/36	72.5	145
Rated current (A)	~3150	2000	~3150
Rated breaking current (kA)	~40	20/31.5	40
Power Frequency withstand voltage (kV)	70	140	275
Lightning impulse withstand voltage (kV)	~170	325	650

- Compact-design
- High Reliability & Safety
- Environment-friendly
- Installation, maintenance & Repair convenience









170	245	362	420
1250~4000	~3150	4000~6300	4000
50	40/50	50/63	50
325	460	520	650
750	1050	1175	1425

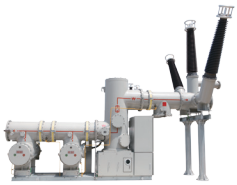
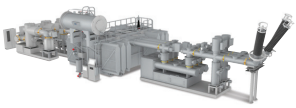


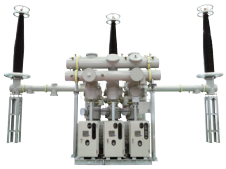
Technical Data





Rated voltage		kV, rms	25.8	36	72.5	
Rated short-time current		kA, rms	25/40	40	20	31.5
Rated short-time		sec	3	3	1	3
Rated breaking current		kA, rms	40	40	20	31.5
Rated current		A, rms	~3150	1250/2500	2000	
Rated frequency		Hz	60	50	60	50/60
Rated making current		kA, peak	104	100	50	79/82
Rated breaking time		cycle	3			
Power Frequency Withstand Voltage	Common	kV, rms	70	70	140	
	Across the isolating distance	kV, rms	77	80	160	
Lightning Impulse Withstand Voltage	Common	kV, peak	150	170	325	
	Across the isolating distance	kV, peak	165	195	375	
Rated operating sequence		-	O - 0.3sec - CO - 3min - CO			
Phase arrangement	Busbar	-	3 Phases Encapsulate	3 Phases Encapsulate	2 Phases Encapsulate	3 Phases Encapsulate
	Feeder	-	3 Phases Encapsulate	3 Phases Encapsulate	2 Phases Encapsulate	3 Phases Encapsulate
Operating Mechanism	CB	-	Motor spring	Motor spring	Hydraulic	Motor spring
	DS	-	Motor	Motor	Motor	
	ES	-	Motor	Motor	Manual	Motor
Applicable Standard		-	IEC 62271-100, 200	IEC 62271-200	IEC 62271-203 / IEC 62271-102	



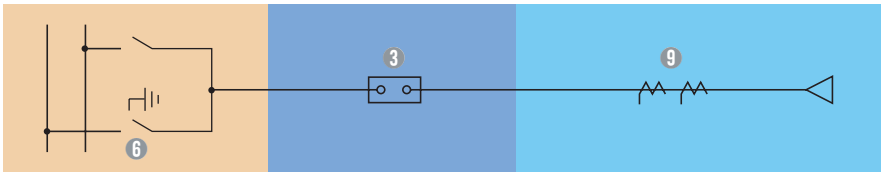
145	170	245		362		420
40	50	40	50	50	63	50
3	1	3		1	1	3
40	50	40	50	50	63	50
~ 3150	1250, 2000, 3150, 4000	up to 3150		4000	~ 6300	4000
50/60	60	50/60	50	60		50
100/104	130	100/104	125	130	164	125
3		3		3		2
275	325	460		520		650
315	375	530		675		815
650	750	1050		1175		1425
750	860	1200		1175		1425(+240)
O - 0.3sec - CO - 3min - CO						
3 Phase Encapsulated	3 Phase Encapsulated	3 Phase Encapsulated		3 Phase Encapsulated		Single Phase Segregated
3 Phase Encapsulated	3 Phase Encapsulated	Single Phase Segregated		Single Phase Segregated		Single Phase Segregated
Motor Spring	Hydraulic	Motor Spring		Hydraulic		Hydraulic
Motor	Motor	Motor		Motor		Motor
Motor Spring	Manual, Motor Spring	Motor, Motor Spring		Manual, Motor Spring		Motor
IEC 62271-100 / IEC 62271-203 / IEC 62271-102						

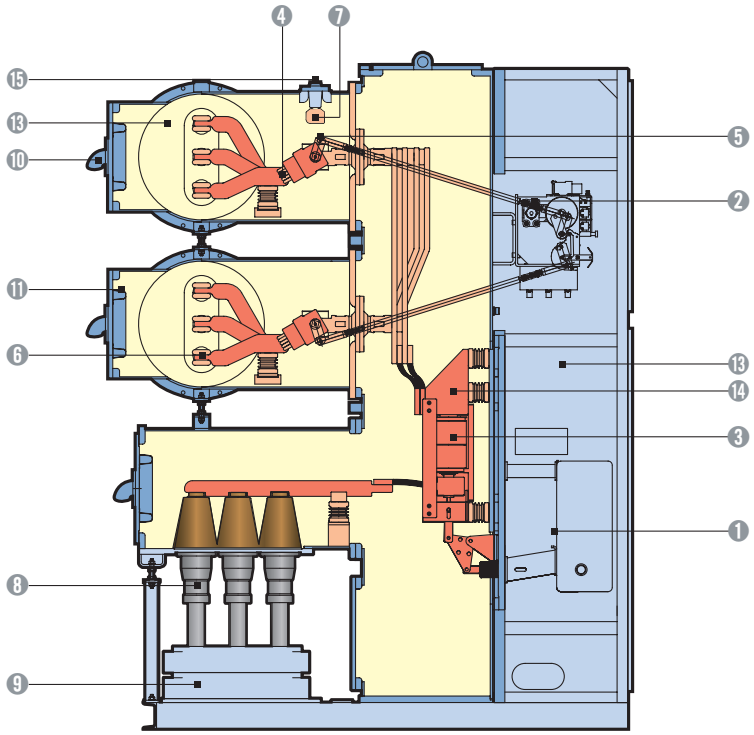
Gas Insulated Switchgear 25.8/36kV GIS

Construction & Single Line Diagram

- 40kA, 3150 high performance & designed Vacuum Interrupter.
- Analysis & design of temperature flow for large current.
- Compact Insulator.
- Simplified main circuit part.





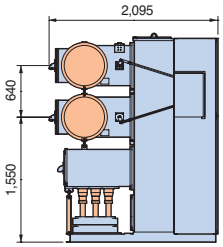


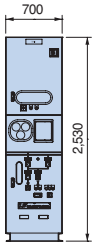
1. Operating mechanism for CB
2. Operating mechanism for 3 position switch
3. Vacuum interrupter
4. 3 position switch
5. Insulating spacer
6. Main bus
7. Earth bushing
8. Cable
9. Current transformer
10. Rupture disk
11. Absorbent
12. Local control panel
13. DS/ES unit
14. Circuit breaker
15. Earth busbar

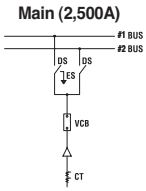


Layout - Typical Bay Arrangement

Main

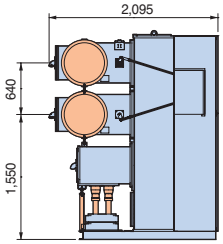


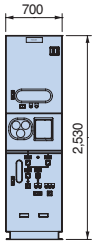


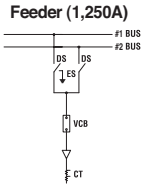


One-Line Diagram

Feerder

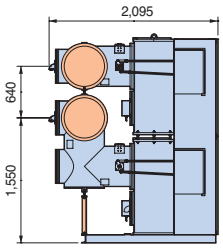


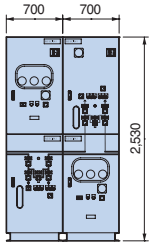


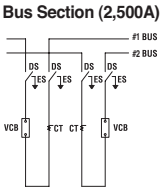


One-Line Diagram

Bus Section

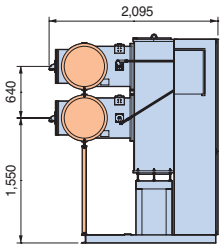


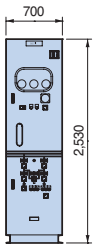


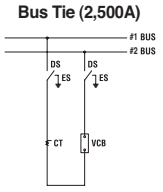


One-Line Diagram

Bus Tie







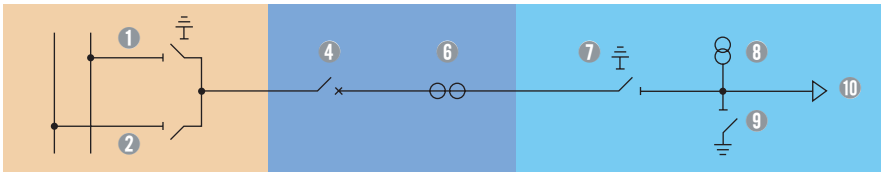
One-Line Diagram

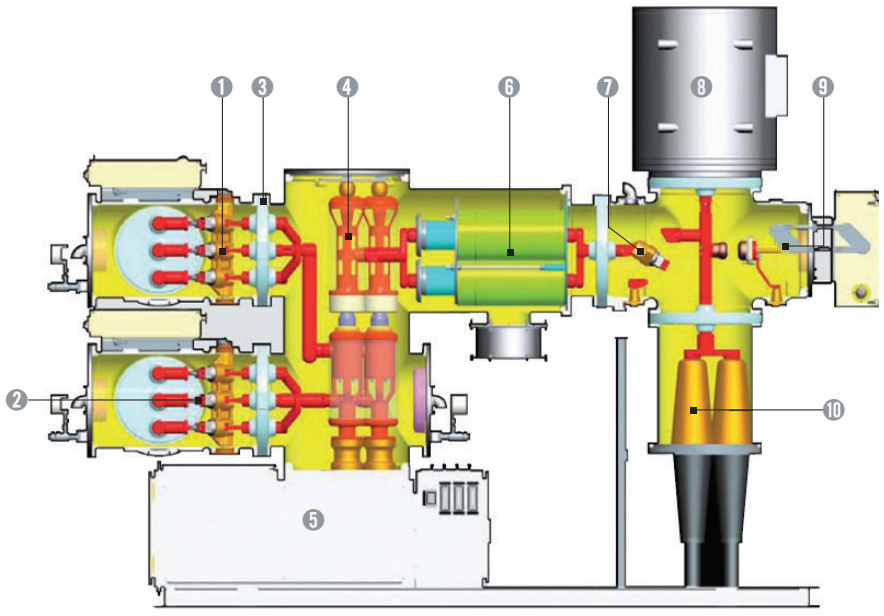
Gas Insulated Switchgear

72.5kV GIS

Construction & Single Line Diagram

- Compact design can reduce space requirement.
- Maximize system security with a minimum of maintenance.
- Modular system makes our GIS easier to operate.
- Environmentally friendly - Modules are designed optimally to fit in the installation space and the use of SF_6 gas is minimized.



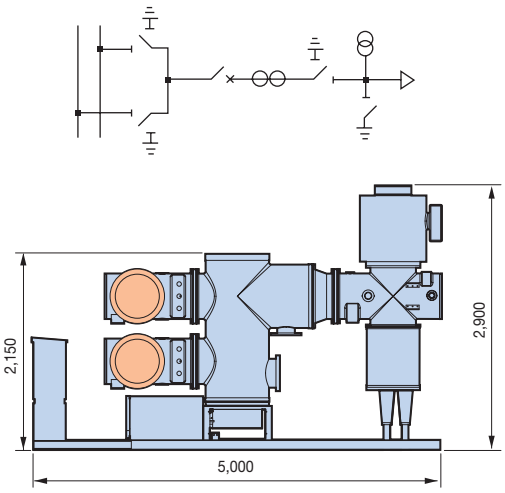


1. Bus disconnector with maintenance earthing switch
2. Bus disconnector
3. Gas barrier
4. Circuit breaker
5. Operating mechanism for CB
6. Current transformer
7. Line disconnector with maintenance earthing switch
8. Potential transformer
9. High speed earthing switch (HSES)
10. Cable head

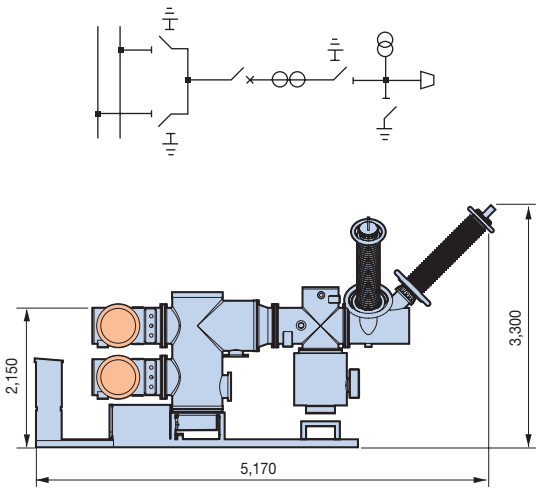


Layout - Typical Bay Arrangement

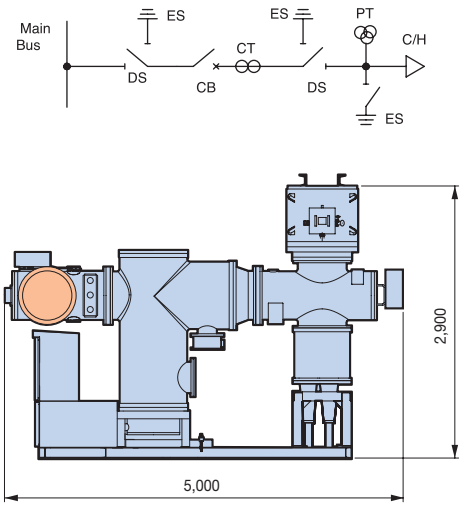
Double Bus System
(Cable Connection)



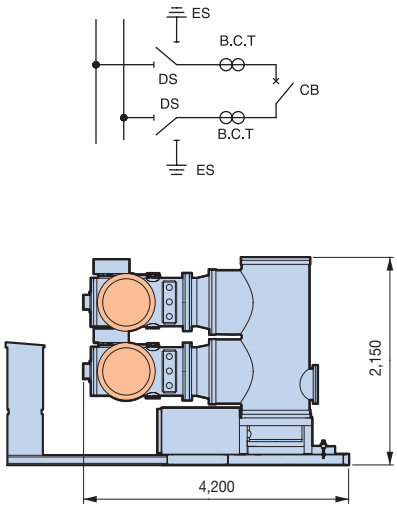
Double Bus System
(Gas to Air Bushing)



Single Bus System
(Cable Connection)



Bus Coupler

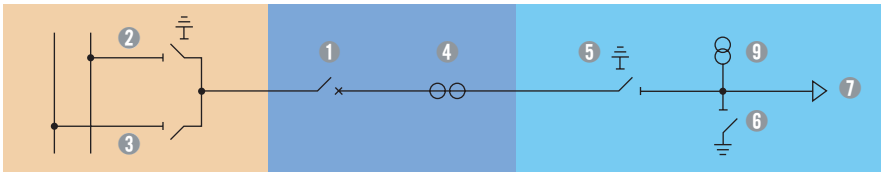


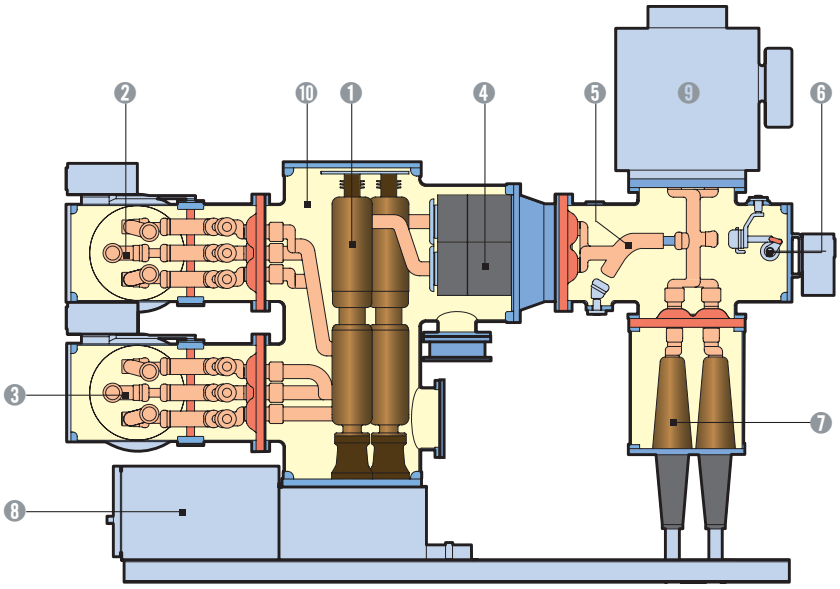
Gas Insulated Switchgear

145kV GIS

Construction & Single Line Diagram

- Maximize system security with a minimum of maintenance.
- Modular system makes our GIS easier to operate.
- Environmentally friendly - Modules are designed optimally to fit in the installation space and the use of SF_6 gas is minimized.



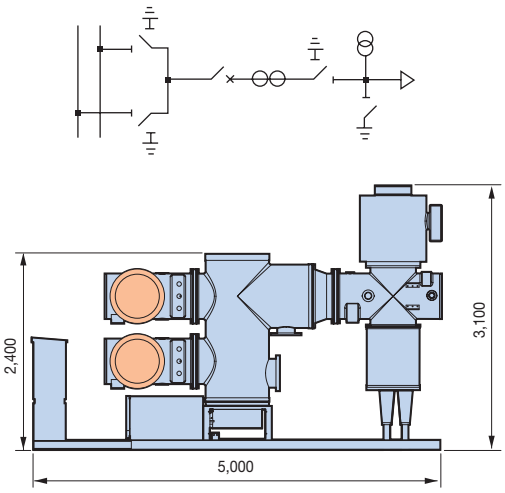


1. Circuit breaker
2. Bus disconnector with maintenance earthing switch
3. Bus disconnector
4. BCT
5. Line DS/ES
6. High speed ES (HSES)
7. Cable head
8. Operating mechanism for CB
9. Potential transformer
10. Gas area

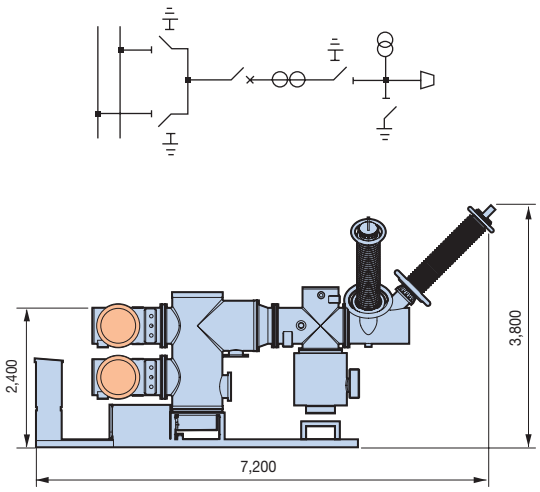


Layout - Typical Bay Arrangement

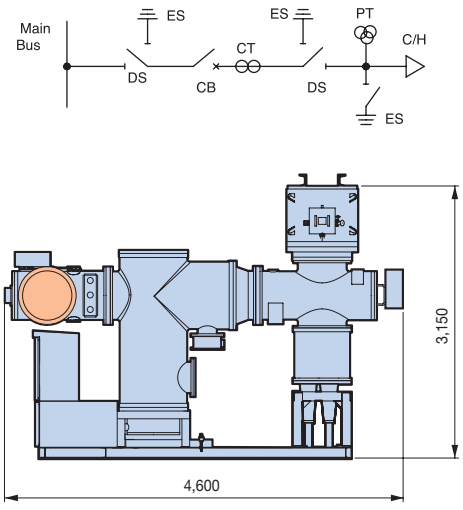
Double Bus System
(Cable Connection)



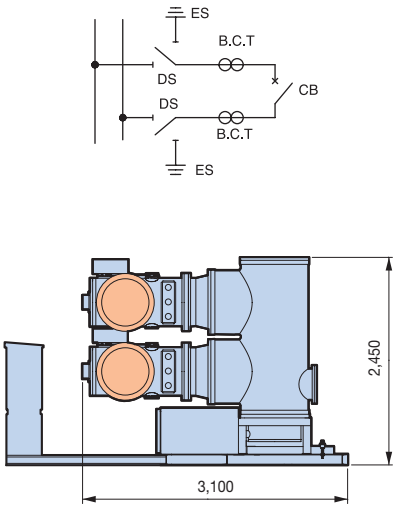
Double Bus System
(Gas to Air Bushing)



Single Bus System
(Cable Connection)



Bus Coupler



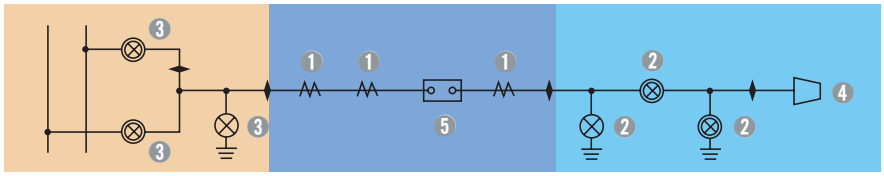
Gas Insulated Switchgear

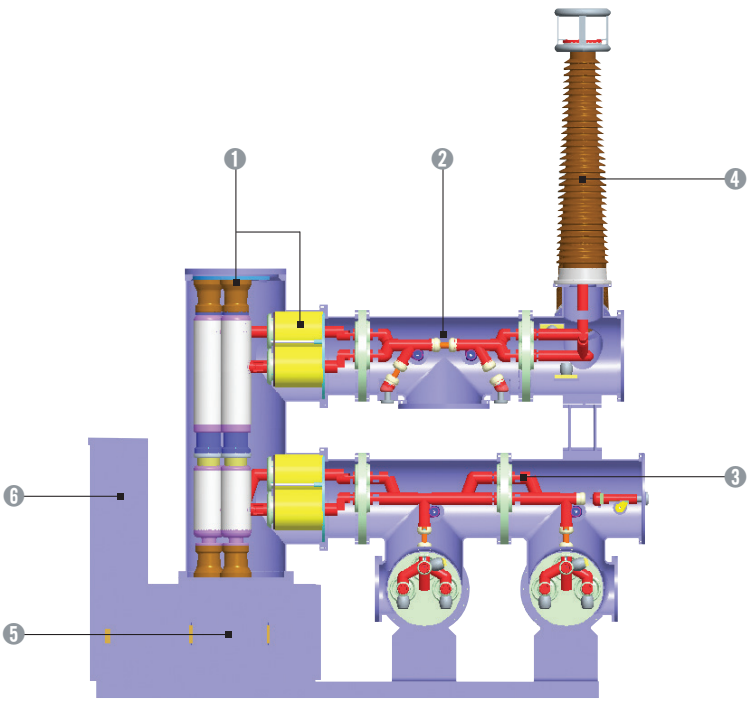
170kV GIS

Construction & Single Line Diagram

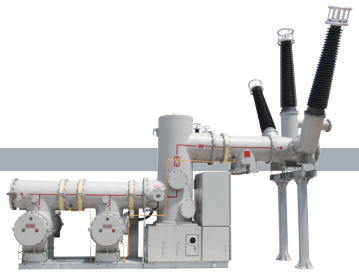
- Space-saving design is ideal for use in compact places especially in urban or industrial zone.
- Our GIS is given early life test and full life test for customers to ensure safety and reliability.
- Environmentally friendly - Modules are designed optimally to fit in the installation space and the use of SF_6 gas is minimized.





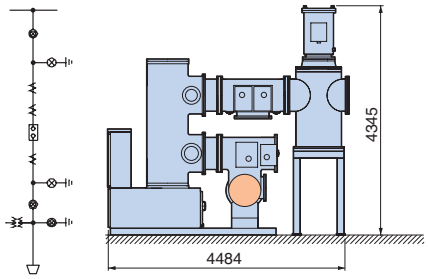


1. CB/CT Unit
2. Line DS/2ES Unit
3. Busbar DS/ES Unit
4. Bushing Unit
5. Operating Mechanism
6. Control panel

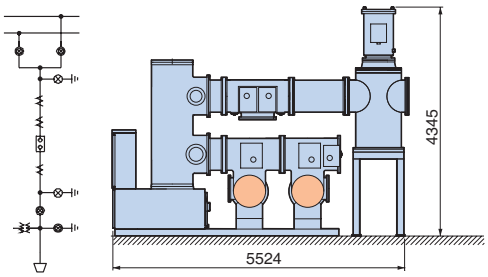


Layout - Typical Bay Arrangement

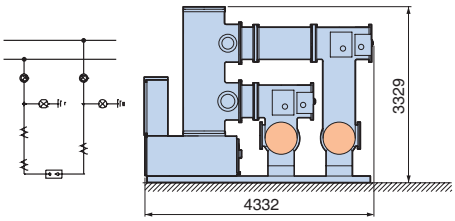
Single bus/Transmission Line
(Cable Head)



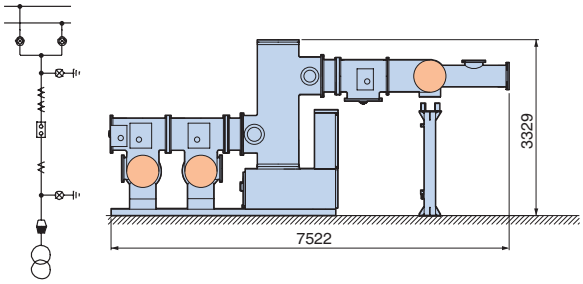
Double Bus/Transmission Line
(Cable Head)



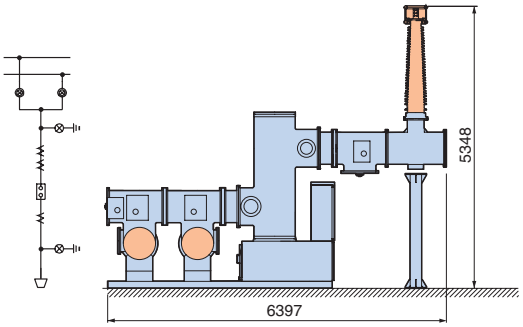
Bus Tie



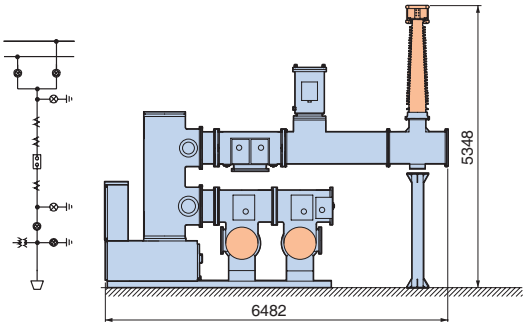
Transformer Feeder
(Gas to Oil Bushing)



Overhead Line TR Feeder
(Gas to Air Bushing)



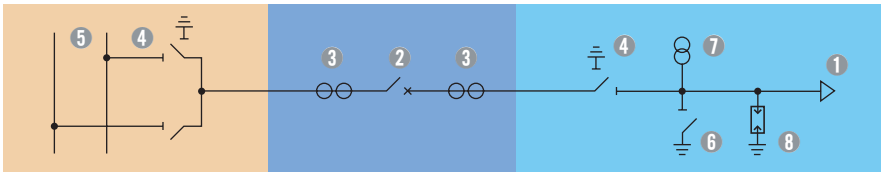
Overhead Line T/L Feeder
(Gas to Air Bushing)

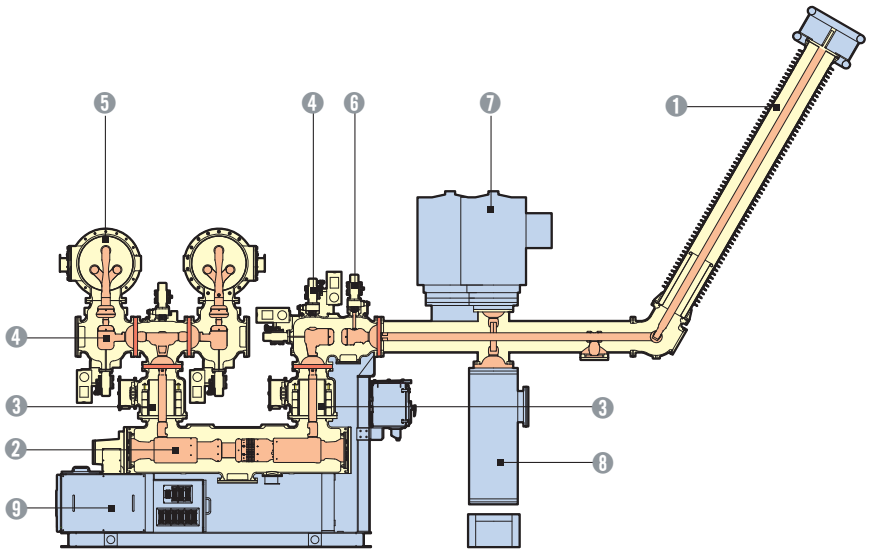


Gas Insulated Switchgear 245kV 40kA GIS

Construction & Single Line Diagram

- Spacing-saving design for using in compact place in urban & industrial zone
- Long life and minimal operation cost.



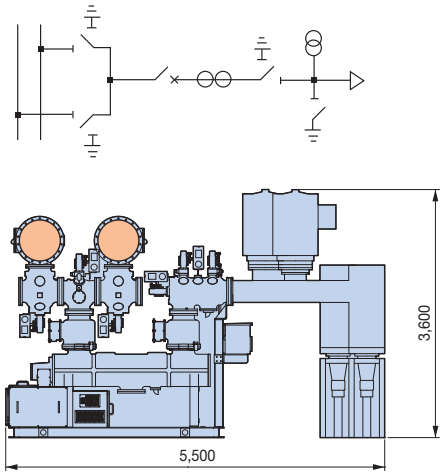


1. Gas to air bushing
2. Circuit Breaker
3. Current transformer
4. Disconnector and earthing switch
5. Main bus
6. High speed earthing switch
7. Potential transformer
8. Lightning arrester
9. Operating mechanism and control panel

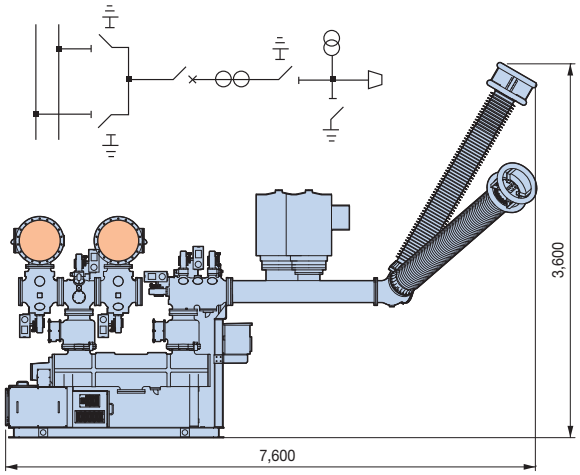


Layout - Typical Bay Arrangement

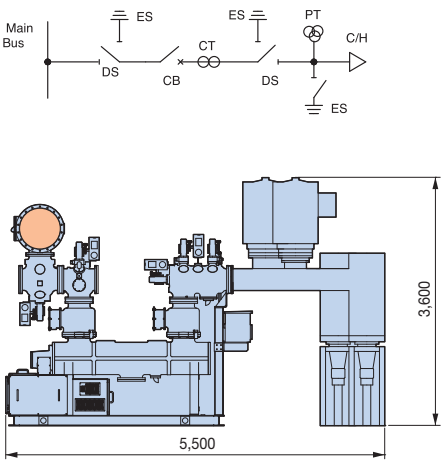
Double Bus System
(Cable Connection)



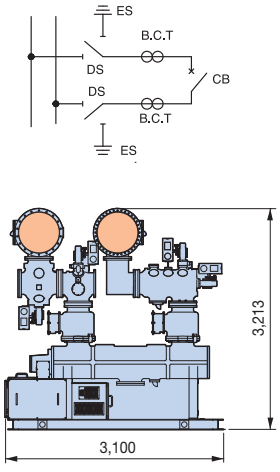
Double Bus System
(Gas to Air Bushing)



Single Bus System
(Cable Connection)



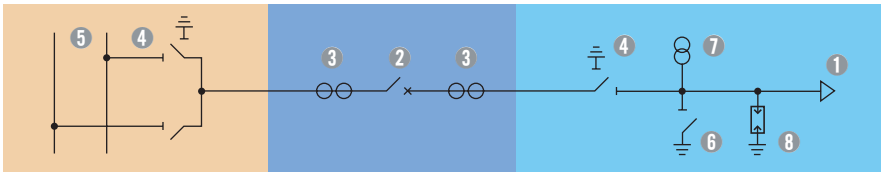
Bus Coupler

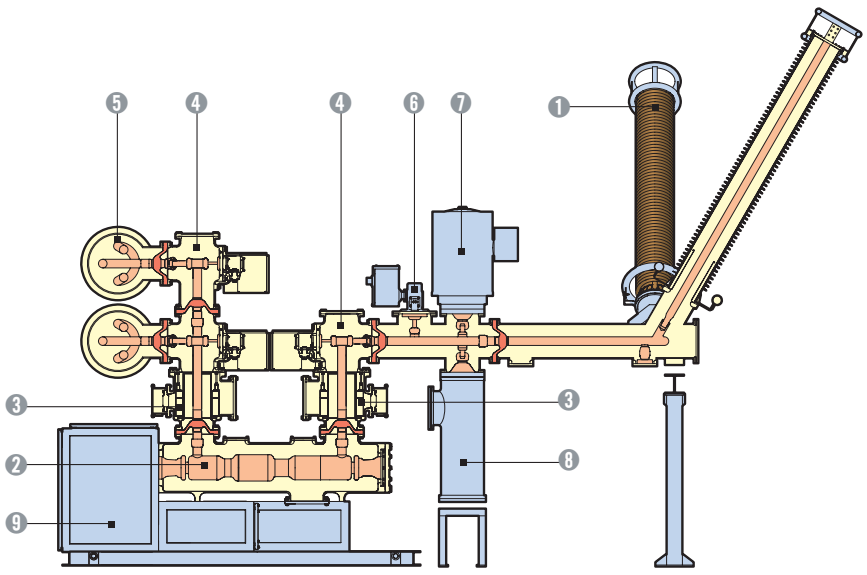


Gas Insulated Switchgear 245kV 50kA GIS

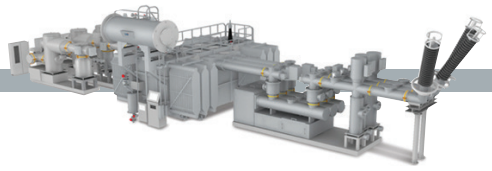
Construction & Single Line Diagram

- Maximum efficiency mechanically and electrically.
- Space-saving design for using in compact place especially in urban or industrial zone.
- Long life and minimal operation cost.
- Minimal use of SF_6 gas by compact design with our high technology.



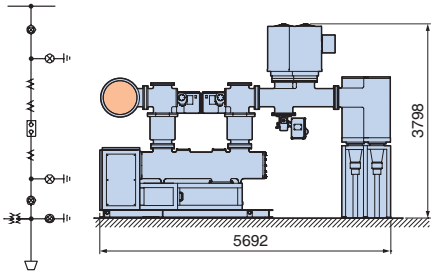


1. Gas to air bushing
2. Circuit Breaker
3. Current transformer
4. Disconnector and earthing switch
5. Main bus
6. High speed earthing switch
7. Potential transformer
8. Lightning arrester
9. Operating mechanism and control panel

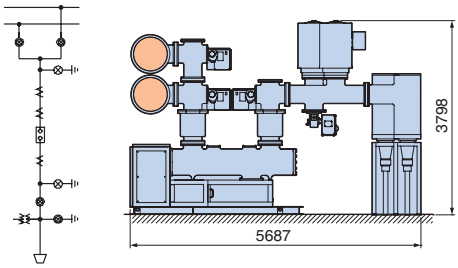


Layout - Typical Bay Arrangement

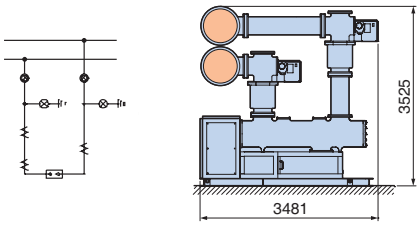
Single bus/Transmission Line
(Cable Head)



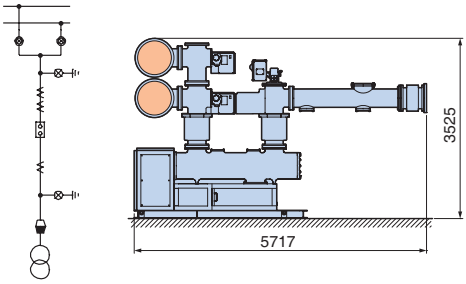
Double Bus/Transmission Line
(Cable Head)



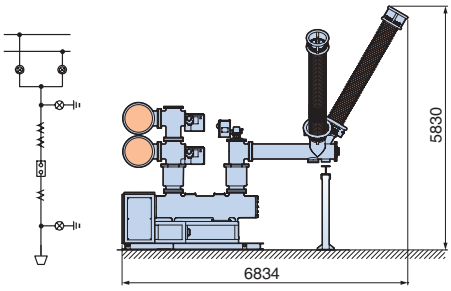
Bus Tie



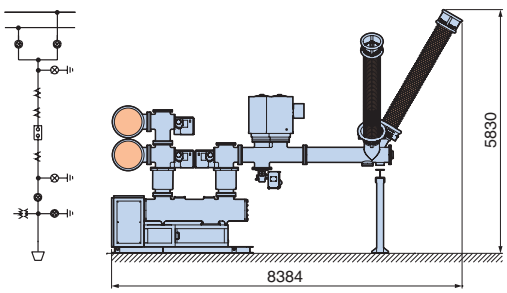
Transformer Feeder
(Gas to Oil Bushing)



Overhead Line TR Feeder
(Gas to Air Bushing)



Overhead Line T/L Feeder
(Gas to Air Bushing)

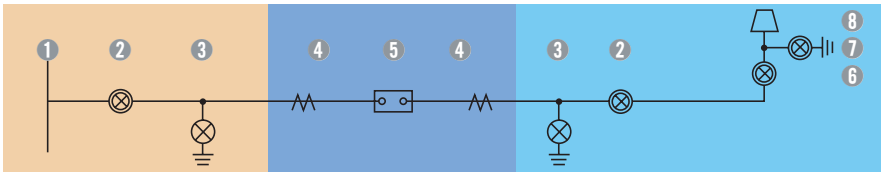


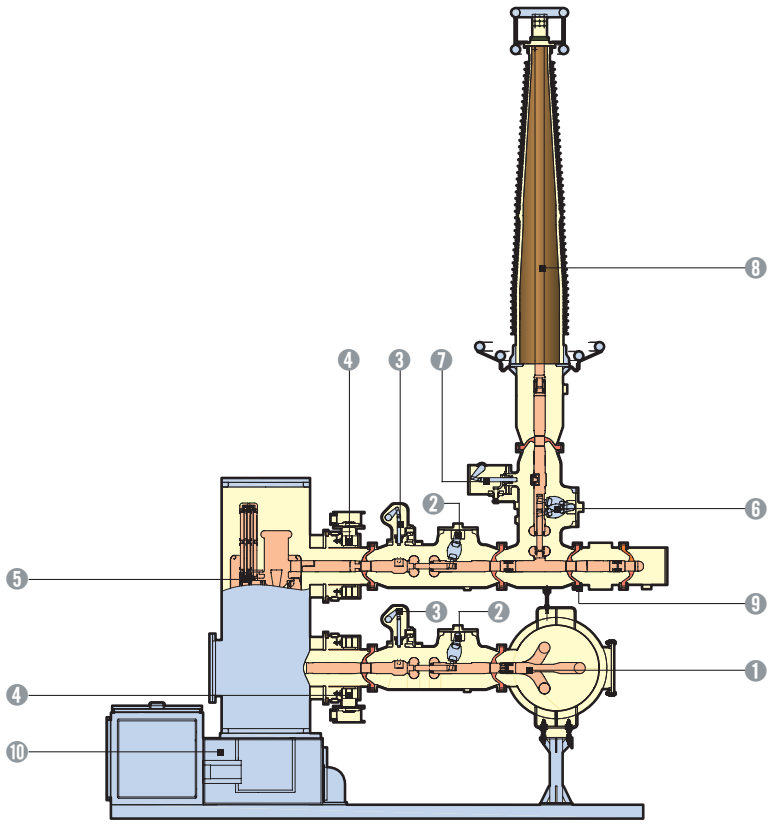
Gas Insulated Switchgear 362kV 50kA GIS

Construction & Single Line Diagram

- Condenserless type CB development by Breaking analysis tech up-grade.
- Input resistance optimization by Input thermal capacity analysis.
- DS/ES 3-phase Encapsulate control development by Phase distance downscale.
- It is based to parallel DS design for made Layout compact universal design (DS/ES control, CT & B.G)
- Quality upgrade by One-Bed delivery by Phase distance downscale.
- It is possible to add GIS to established substation.





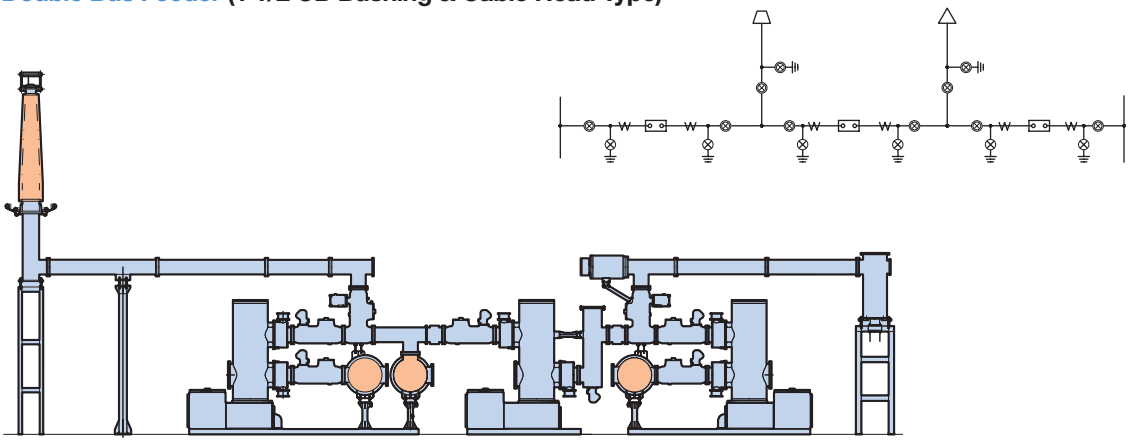


1. Main bus
2. Bus disconnector
3. Earthing switch for maintenance
4. Current transformer
5. Circuit breaker
6. Line disconnector
7. Earthing switch for making-proof
8. Bushing
9. Insulating spacer
10. Operating mechanism for CB

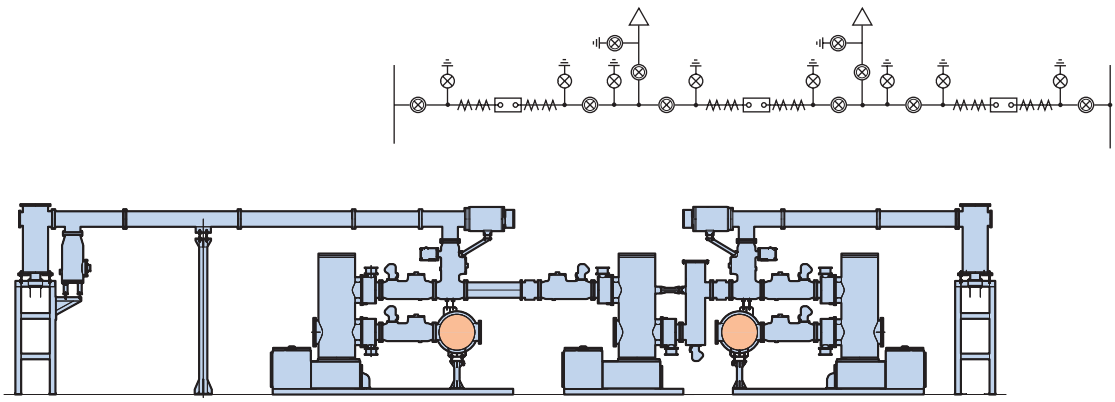


Layout - Typical Bay Arrangement

Double Bus Feeder (1 1/2 CB Bushing & Cable Head Type)



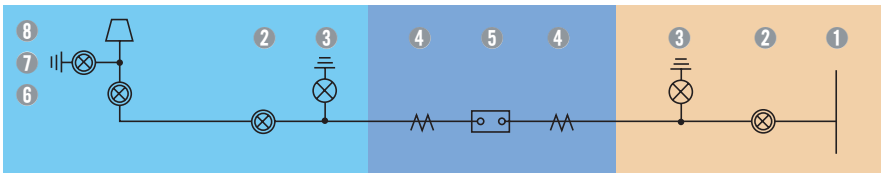
Double Bus Feeder (1 1/2 CB Cable Head Type)

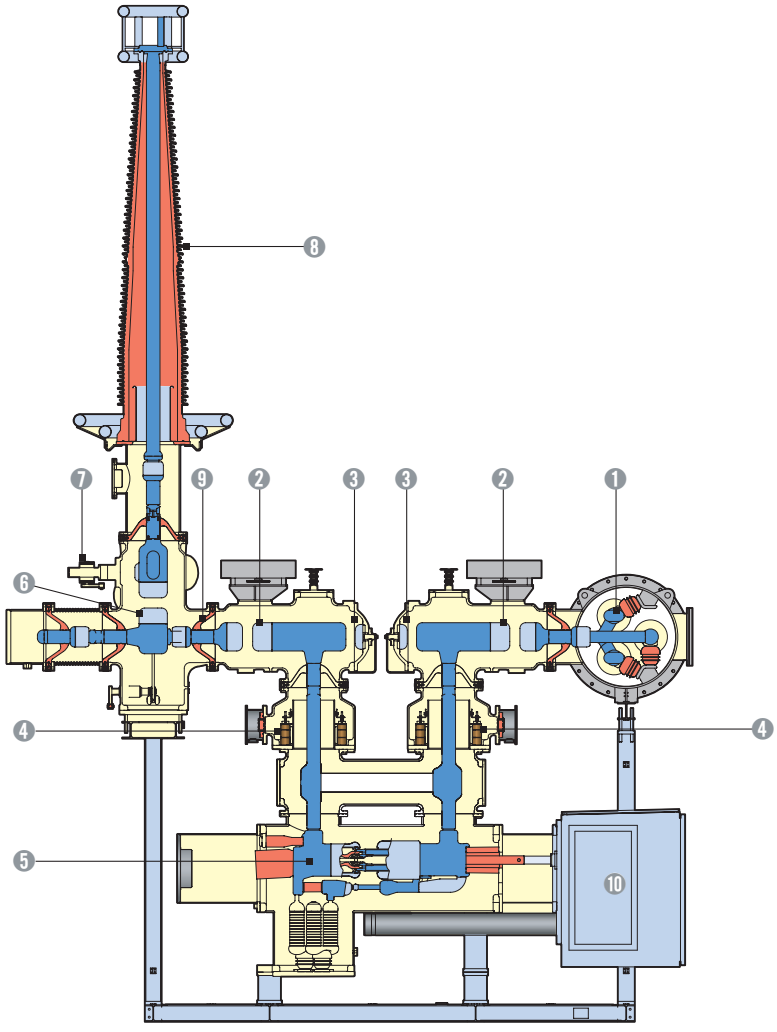


Gas Insulated Switchgear 362kV 63kA GIS

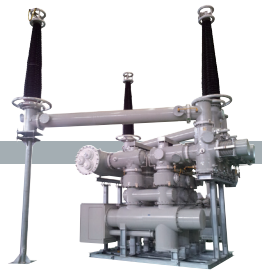
Construction & Single Line Diagram

- Modules are designed to fit in optimal space for installation, while protecting the environment from minimal use of SF_6 gas
- Maximized system security with a minimum of maintenance



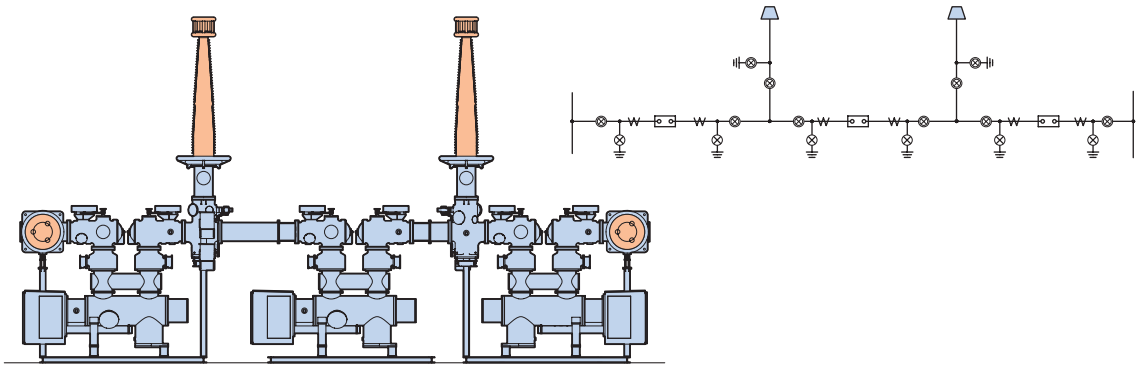


1. Main bus
2. Bus disconnector
3. Earthing switch for maintenance
4. Current transformer
5. Circuit breaker
6. Line disconnector
7. Earthing switch for making-proof
8. Bushing
9. Insulating spacer
10. Operating mechanism for CB

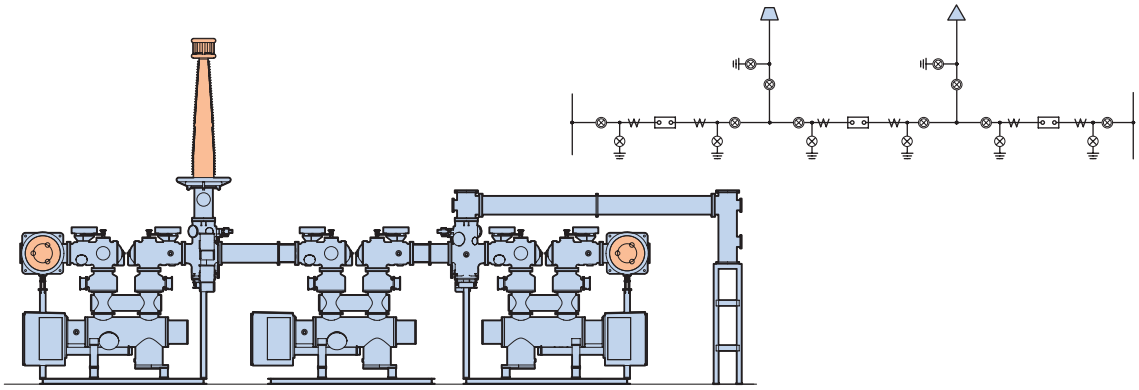


Layout - Typical Bay Arrangement

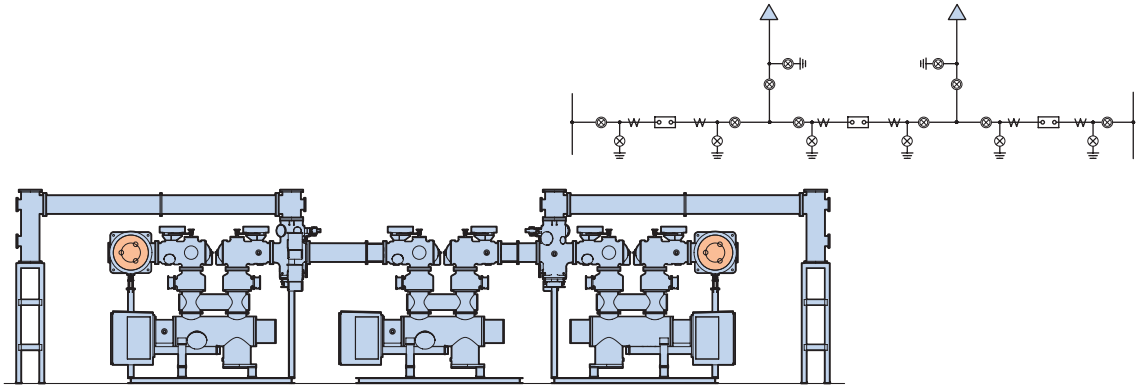
Double Bus Feeder (1 1/2 CB Bushing Type)



Double Bus Feeder (1 1/2 CB Bushing & Cable Head)



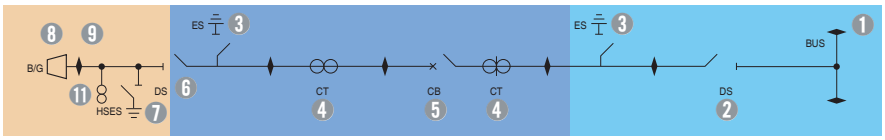
Double Bus Feeder (1 1/2 CB Cable Head Type)

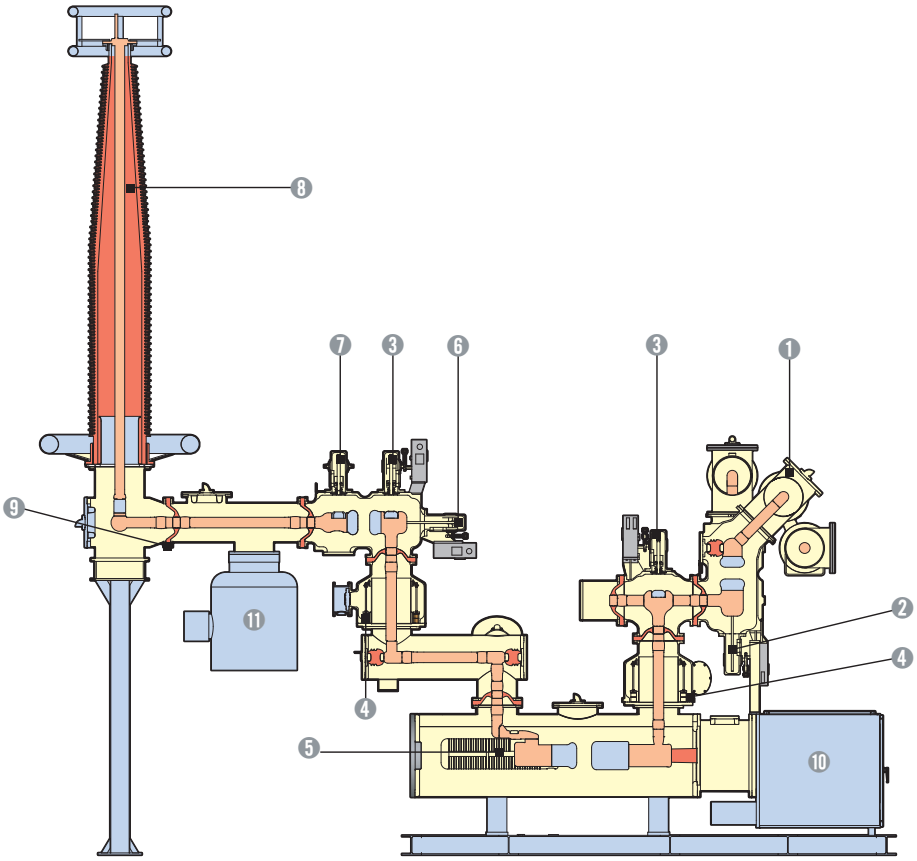


Gas Insulated Switchgear 420kV 50kA GIS

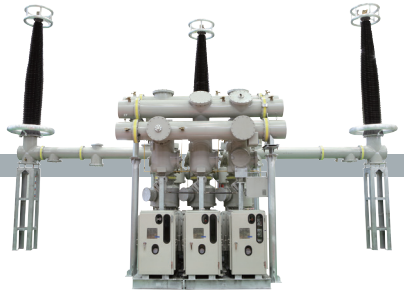
Construction & Single Line Diagram

- Modules are designed to fit in optimal space for installation, while protecting the environment from minimal use of SF_6 gas
- Maximized system security with a minimum of maintenance



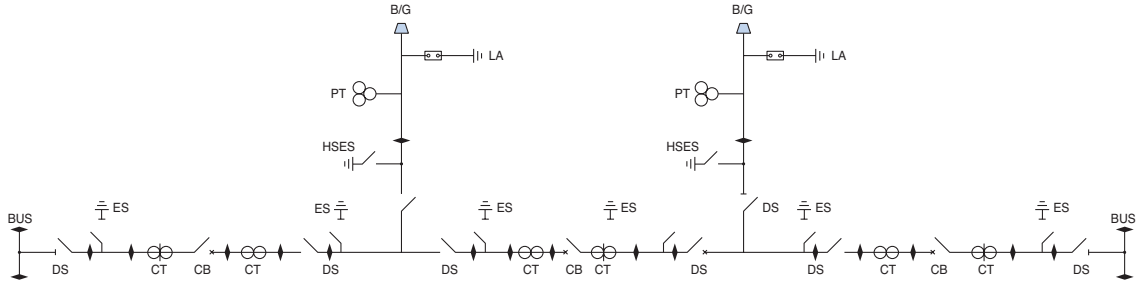


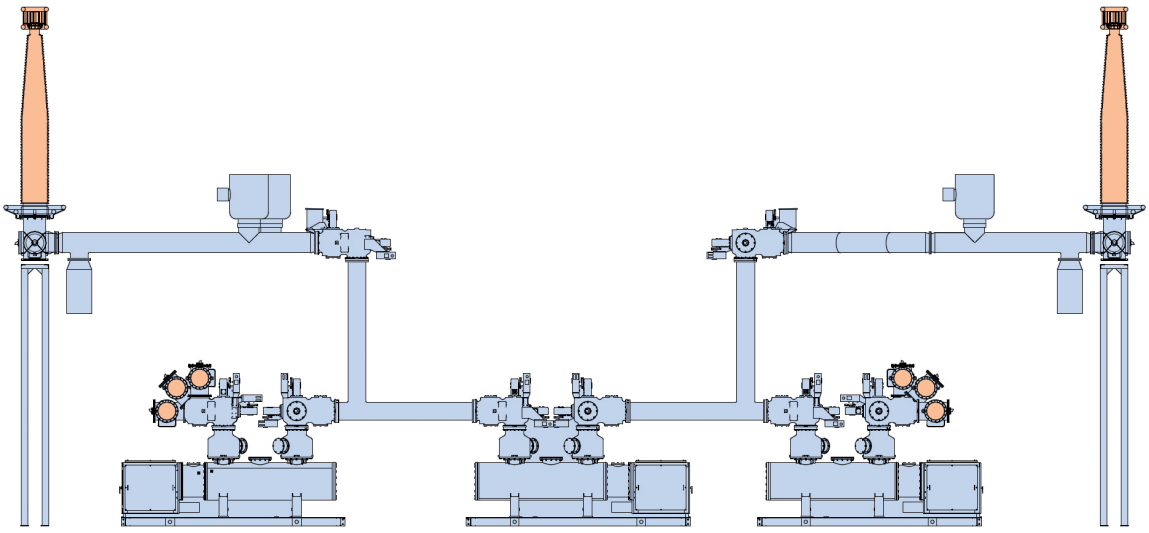
1. Main bus
2. Bus disconnector
3. Earthing switch for maintenance
4. Current transformer
5. Circuit breaker
6. Line disconnector
7. Earthing switch for making-proof
8. Bushing
9. Insulating spacer
10. Operating mechanism for CB
11. Potential Transformer



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



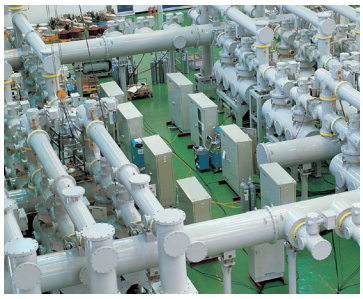
Preparation



Unit Assembling



Unit Assembling



Docking



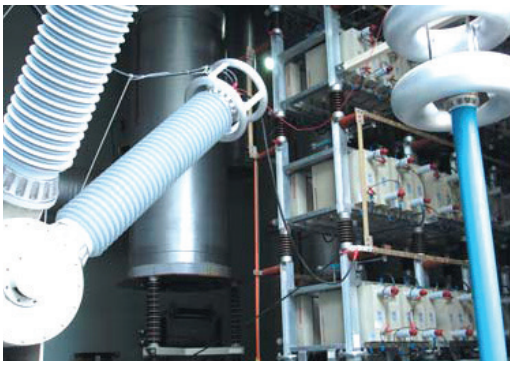
Final Inspection & Testing



Installation at site

Research & Development

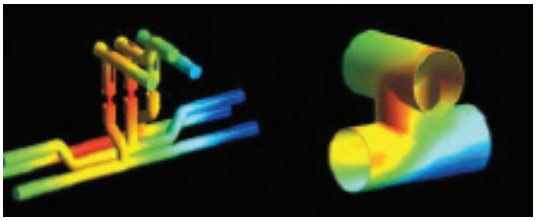
LSIS obtained certification about major research and development tasks in some leading countries and continues to invest in developing the best GIS product for our customers worldwide.
To produce highest quality GIS, optimized design is conducted through 3D electric field analysis, arc diagnosis and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



Electro Technology R&D Center

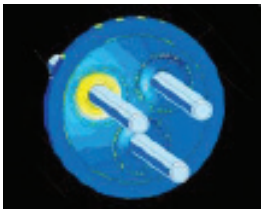


Multi-Physics Technology



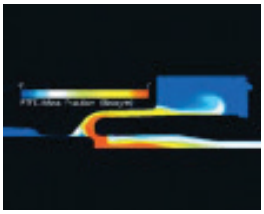
DS/ES unit temperature prediction using electro-Magnetic field and temperature flow analysis.

Optimized Electric Field Control



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

Interruption Performance Analysis

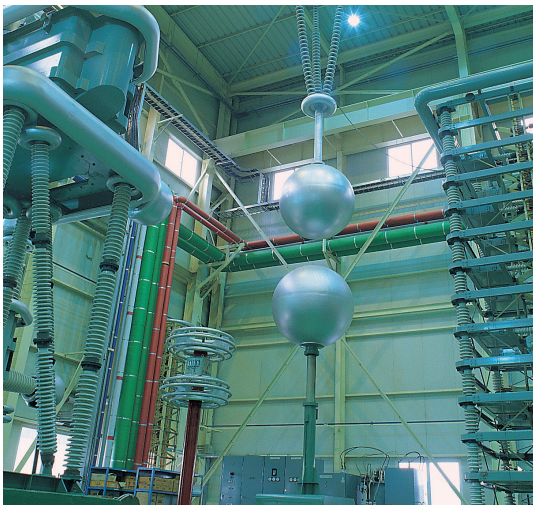


Arc movement prediction to evaluated breaker capability

Power Testing & Technology Institute



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

Quality Assurance

Quality product and service to lead customer satisfaction is the motto of LSIS, and is what motivates the company to perfecting zero-defect product.

The Quality Assurance Program by LSIS provide 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.

PT&T KERI KEMA KSA
ISO 9001/14001 CERTIFIED
K-OHSMS 18001



Certificates

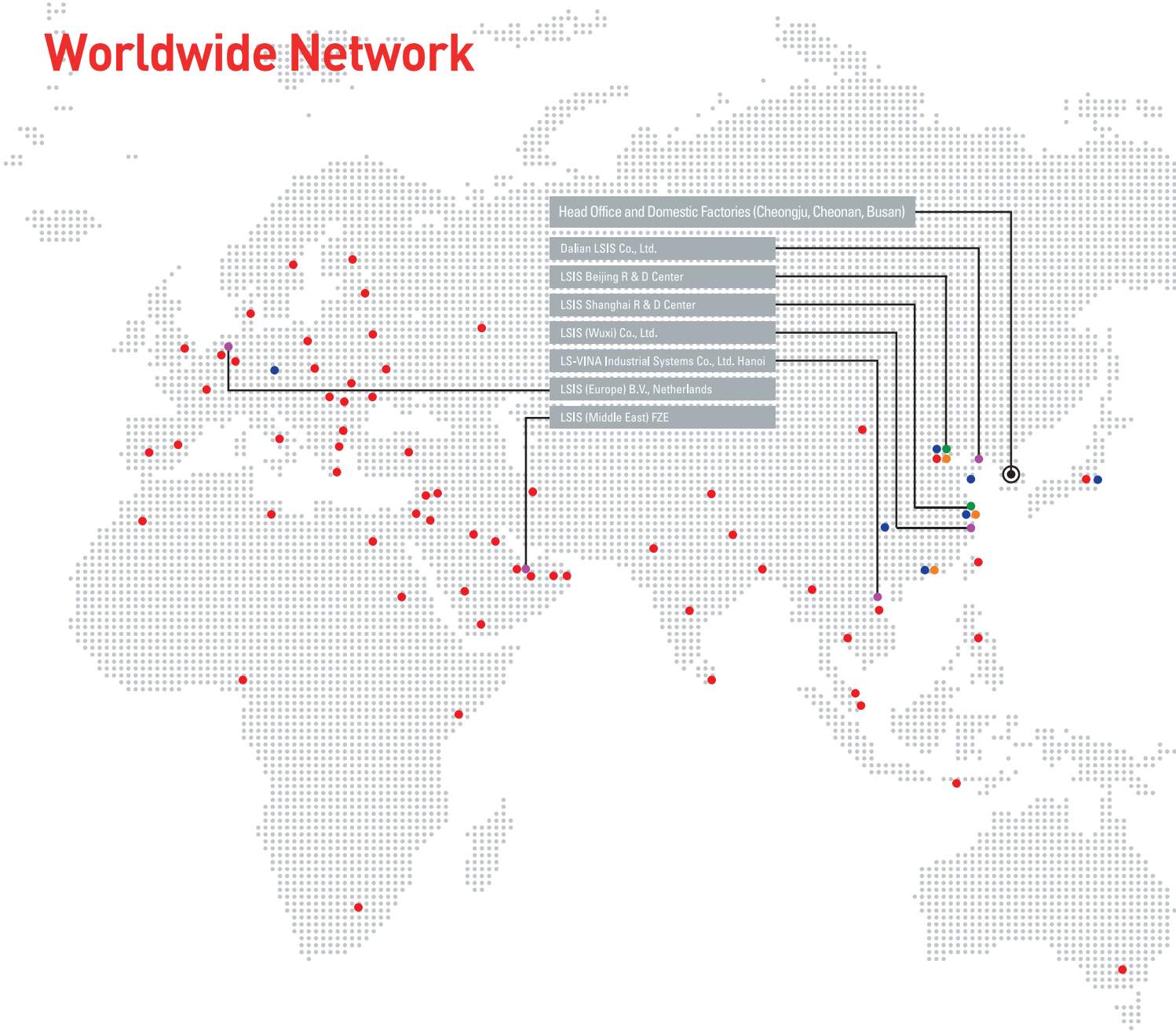
Customer Satisfaction through Quality & Service - LSIS is the name you can trust.

LSIS electric equipment and systems ranging from low to high voltage acquired the KEMA, CESI, ASTA, KERI and other certificates for Efficient design and excellent quality.
The outstanding quality of our products is recognized for being manufactured with international standards such as IEC, UL, ANSI, GOST and KS.
We also provide the Total Solution that encompasses rational design and engineering, efficient production and installation, as well as highly accurate testing and analysis of power equipment.





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



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.

FUTURING SMART ENERGY



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.

LSIS

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HEAD OFFICE

LS Tower, LS-ro 127, Dongan-gu, Anyang-si,
Gyeonggi-do, 431-848, Korea
Tel. 82-2-2034-4344, 4898, 4258 / Fax. 82-2-2034-4755

CHEONG-JU PLANT

1 Songjeong-dong, Cheongju-si, Chungbuk-do, 361-720, Korea
Tel. 82-43-261-6114 / Fax. 82-43-261-6602

BUSAN PLANT

1-19 Block Hwajeon-dong, Gangseo-gu, Busan, 618-280, Korea
Tel. 82-51-795-6114 / Fax. 82-51-795-6169

BUSAN HVDC PLANT

Hwajeon-sandan 2ro 9, Gangseo-gu, Busan, 618-280, Korea
Tel. 82-51-711-8040 / Fax. 82-51-711-8089

HANOI PLANT, VIETNAM

Nguyen Khe, Dong Anh Dist., Hanoi City, Vietnam
Tel. 84-4-3882-0222 / Fax. 84-4-3882-0220

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

Global Network

Overseas Subsidiaries

- **LSIS USA Inc. ›› Chicago, America**
  2000Millbrook Drive,Lincolnshire,Chicago,IL60069,United States of America
  Tel: 1-847-941-8240 / Fax: 1-847-941-8259 / E-mail: seungheonc@lsis.com
- **LSIS (Middle East)FZE ›› Dubai, U.A.E**
  LOB 19-205, JAFZA View Tower, Jebel Ali Free Zone, Dubai, United Arab Emirates
  Tel: 971-4-886-5360 / Fax: 971-4-886-5361 / E-mail: hschoib@lsis.com
- **LSIS Europe B.V. ›› Schiphol-Rijk, Netherlands**
  1st Floor,Tupoleviaan 48, 1119NZ, Schiphol-Rijk,The Netherlands
  Tel: 31-20-654-1420 / Fax: 31-20-654-1429 / E-mail: junshickp@lsis.com
- **LSIS Japan Co.,Ltd. ›› Tokyo, Japan**
  Tokyo Club Building 13F, 2-6, Kasumigaseki 3-chome, Chiyoda-ku, Tokyo, 100-0013
  Tel: 81-3-6268-8241 / Fax: 81-3-6268-8240 / E-mail: jschuna@lsis.com
- **LSIS Dalian Co.,Ltd. ›› Dalian, China**
  No. 15, Liaohexi 3-Road, Economic and Technical Development Zone, Dalian 116600, China
  Tel: 86-411-8273-7777 / Fax: 86-411-8730-7560 / E-mail: tangyh@lsis.com

Overseas Branches

- **LS-VINA Industrial Systems Co., Ltd.**
  - 2302, 23rd FL, KeangNam Hanoi Landmark Tower, Nam Tu Liem Dist., Hanoi City, Vietnam
    Tel: 84-4-6275-8055 / Fax: 84-4-6275-8056 / E-mail: hjchoi@lsisvina.biz
  - 6th FL, Yoco BLDG, 41 Nguyen Thi Minh Khai Str., HCM, Vietnam
    Tel: 84-8-3822-7941 / Fax: 84-8-3822-7942 / E-mail yhleec@lsisvina.biz
- **LSIS Moscow Office, Russia**
  123610, Krasnopresnenskaya, nab,12, building1, office No.1005, Moscow, Russia
  Tel: 7-495-258-1466,1467 / Fax: 7-495-258-1466,1467 / E-mail: jdpark1@lsis.com

2016. 03

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