

Seondo Electric

Leads the future of energy



www.seondo.co.kr

sde
SEONDO ELECTRIC CO., LTD.

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01

Corporate Information

Overview

History

Organization

Overview

**Company**

Seondo Electric Co., Ltd.

Establishment

Jan 22, 1972

Employees

143 Personnel (As of Dec. 2023)

Website

<http://www.seondo.co.kr>

CEO

Hyuk Kwon

Corporate Listing

KOSPI listed company
(As of November 30, 1989)

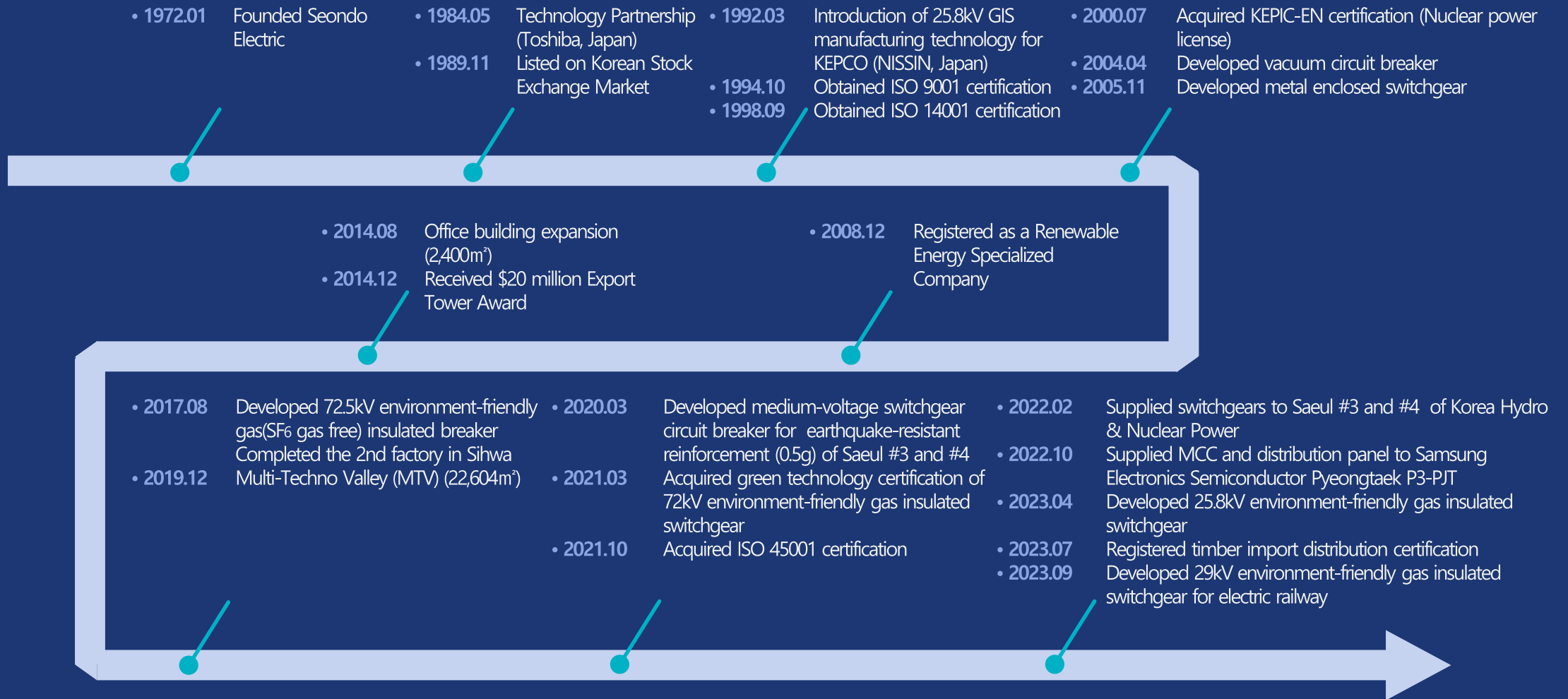
Revenue

\$28.3M (As of Dec. 2023)

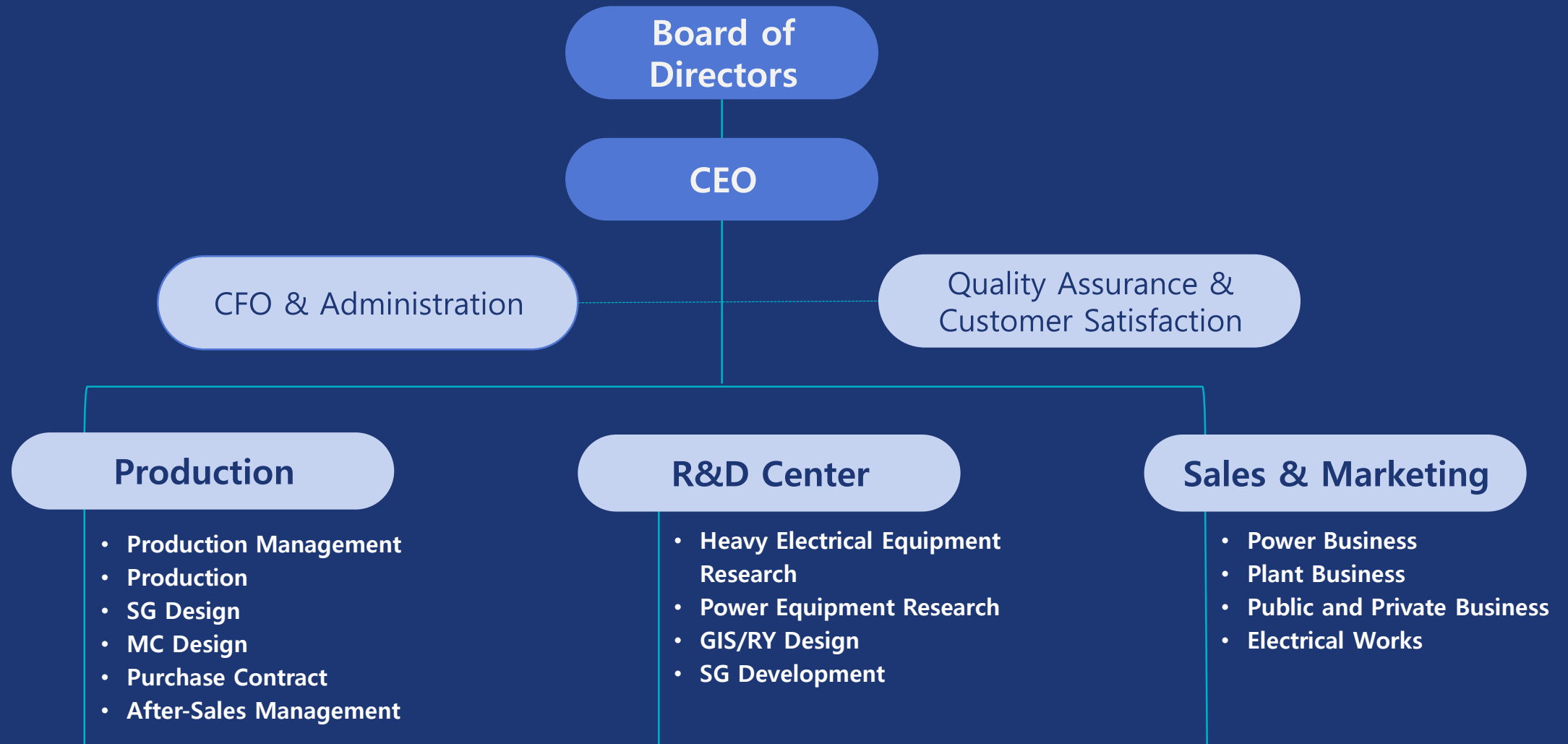
Address

Headquarter : 444, Sihwa Venture-Ro, Danwon-gu, Ansan-si, Gyeonggi-do
Seoul Office : Majin Ville, Hakdong-ro 31gil, Gangnam-gu, Seoul

History



Organization



02

Vision & Values

Corporate Vision
Mission and Core Values

Corporate Vision

We lead the future of energy!

Since its establishment in 1972, Seondo Electric has been at the forefront of realizing customer value by leading technology through constant change and innovation. We will continue to challenge ourselves to create a safe and convenient world in the future energy world.

Mission and Core Values



Our mission is to enable customers to use electricity conveniently and safely.



03

Businesses & Technology

Business Areas

Core Technology

Core Competencies

Certifications for Nuclear Power Plants

Intellectual Properties

Business Areas

Power

Nuclear
Power

Railroad

Industry/
Plant

Fuel Cells/
Power
Generation/
Thermal
Power

Electrical
Work

- Korea Electric Power Corporation
- Korea South-East Power
- Korea Central Power
- Korea Western Power
- Korea Southern Power
- Korea East-West Power

- Korea Hydro & Nuclear Power
- Saeul #3, #4
- Shin-Wolsong #1, #2
- Radioactive Waste Disposal Facility

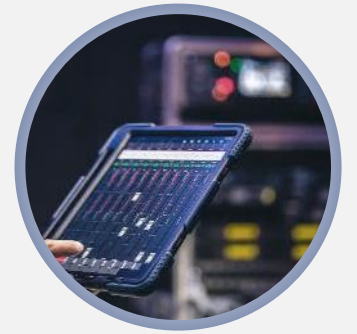
- Korea National Railway
- Korea Railroad
- Seoul Metro

- Construction of a new semiconductor factory
- Construction of a group energy facility for construction companies
- Construction of a new integrated logistics center for factories

- Combined Power & LNG
- Fuel Cell Power Generation Facility
- Thermal Power Plant
- Thermal Environmental Facility

- Apartment complex
- Complex facilities
- Automobile facilities
- Highways
- Optical cable installation

Core Technology



GIS & Relay Research

Developing environment-friendly products that improve the performance and efficiency of the gas insulated switchgear and railway electrical equipment with enhanced stability

Heavy Electrical Machinery Research

Developing technologies and environment-friendly products to improve the performance and reliability of medium-voltage power equipment

Power Equipment Research

Developing environment-friendly technologies to improve efficiency, reliability and extend the life of power equipment

SG Development Department

Developing advanced distribution technologies to improve the efficiency and stability of the power grid

IT System

Integration and optimization of IT systems for power management and control

Core Competencies

“Largest number of qualified protection panels” for KEPCO’s stable power supply and distribution

154kV Relay Panel				345kV Relay Panel	765kV Relay Panel
<ul style="list-style-type: none"> • Transmission line protection panel <ul style="list-style-type: none"> ✓ Protection panel ✓ Protection IED panel 	<ul style="list-style-type: none"> • Short-distance transmission line protection panel <ul style="list-style-type: none"> ✓ Protection panel ✓ Protection IED panel ✓ 1.5CB protection panel ✓ 1.5CB IED Panel 	<ul style="list-style-type: none"> • Bus protection panel <ul style="list-style-type: none"> ✓ Protection panel ✓ Protection IED panel 	<ul style="list-style-type: none"> • Transformers protection panel <ul style="list-style-type: none"> ✓ Protection panel ✓ Protection IED panel 	<ul style="list-style-type: none"> • Transformer protection panel • Transmission line protection panel • Fault detection panel on underground session for transmission line • Breaker failure protection panel 	<ul style="list-style-type: none"> • Bus protection panel • Transformer protection panel • Transmission line protection panel • Breaker failure protection panel



Seondo Electric is the **ONLY** company that provides all of 154kV, 345kV, and 765kV protection panels.



Certifications for Nuclear Power Plants

Trustworthy partner that has obtained essential quality certifications for power equipment for nuclear power plants

KEPIC



- **Purpose:** To ensure the safety and reliability of power equipment (especially nuclear power plants)
- **Organization:** The Korea Electric Power Association evaluates and manages its qualifications.
- **Certification Scope:** Manufacturing of electrical grade-1 switchgear and motor control centers



Q-Class



- **Purpose:** To ensure the nuclear engineering capabilities that require strict technical skills and safety
- **Organization:** The Korea Hydro & Nuclear Power awards the highest-level certification.
- **Certification Scope :** Certification of suppliers of nuclear auxiliary equipment and materials



Supplied medium-voltage switchgears
to Shin-Wolsong #1, #2(2009-2012) and Saeul #3, #4 (2018-2023)



Intellectual Properties

Patents

- Gas Insulated switchgear using carbon dioxide mixed gas
- Sealed structure of lever mechanism for gas insulated switchgear
- Carriage structure for internal equipment of switchgear
- IONIZER
- Carriage structure for internal equipment of switchgear
- Joint structure of frame for switchgear
- Reinforcement structure of switchgear door

Utility Model

- Electronic power meter
- Ion cluster generator
- Frame connection bracket for distribution panel

Design Award

- Nameplate holder for distribution panel
- Distribution panel frame connection_1
- Distribution panel frame connection_2
- Distribution panel frame connection_3
- Gas flow guide for gas insulated switchgear (GIS)_1
- Gas flow guide for gas insulated switchgear (GIS)_2



Appendix 1

History

From the foundation to the growth period
Leap and maturity period
Re-challenge period toward the future

From the foundation to the growth period



- 1972.01 Foundation of Seondo Electric Co. Ltd.
- 1979.12 New factory relocation to Banwol Industrial Complex
- 1984.05 Technology partnership (Toshiba, Japan)
- 1987.07 First export of vacuum circuit breakers to the US
- 1989.11 Listed on the Korea Stock Exchange

- 1992.03 Introduction of 25.8kV GIS manufacturing technology for KEPCO (NISSIN, Japan)
- 1993.12 Established corporate research institute
- 1994.10 Obtained ISO 9001 certification
- 1998.09 Obtained ISO 14001 certification

- 2000.07 Acquired KEPIC-EN certification (Korea Electric Association, Nuclear Power License)
- 2004.04 Developed vacuum circuit breaker
- 2005.01 Developed motor control center (2000A / 600A 40kA)
- 2005.03 Developed vacuum circuit breaker (7.2kV 2000A / 1250A 40kA)
- 2005.11 Developed metal enclosed switchgear

Leap and maturity period



2006~2010



2011~2012



2013~2014

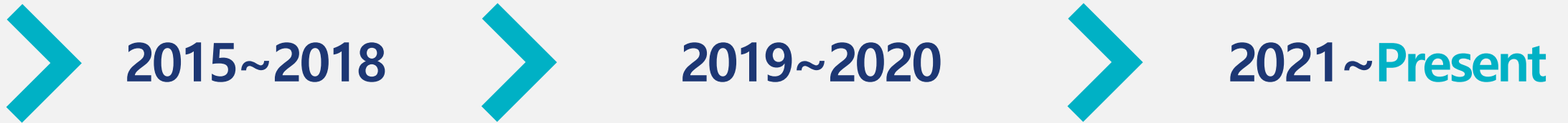


- **2006.02** Developed vacuum circuit breaker (24kV 630A 12.5kA / 7.2kV 630A / 1250A / 200A 25kA)
- **2006.06** Acquired INNO-Biz (Technology Innovation Small and Medium-sized Enterprise) certification
- **2008.12** Registered as Renewable Energy Specialized Company
- **2009.04** Received Jang Yeong-sil Award for cluster ion generator

- **2011.11** Developed enclosed switchgear and vacuum circuit breaker (12kV 1250A/2000A, 40kA)
- **2012.01** Developed enclosed switchgear (7.5kV 3000A 40kA)
- **2012.04** Developed 480V motor control center (MCC)
- **2012.04** Developed circuit breaker (12kV 1250 40kA)

- **2013.04** Awarded Presidential Industrial Medal (CEO Jeon Dong-jun)
- **2013.10** Selected as a promising small and medium-sized enterprise in Gyeonggi Province
- **2014.07** Completed an office building extension(2,400m²)
- **2014.08** Developed enclosed distribution panel (24kV 25kA)
- **2014.08** Developed a circuit breaker (24kV 25kA)
- **2014.12** Received the \$20 million Export Tower award

Re-challenge period toward the future



- 2015.08 Developed 29kV GIS
- 2015.10 Patent registration for switchgear diagnostic device
- 2016.05 Patent registration for 3-stage draw-in/out device of low-voltage motor control center
- 2017.06 Meteorological business registration (meteorological equipment)
- 2017.08 Developed 72.5kV environment-friendly gas(SF6 gas free) insulated breaker
- 2018.02 Patent registration for assembly frame for switchgear
- 2018.05 4 designs for switchgear registered

- 2019.07 Registered practical design of frame connecting bracket for switchgear
- 2019.07 Patent registration for gas insulated switchgear using carbon dioxide mixed gas
- 2019.12 Completed 2nd factory in Sihwa Multi-Techno Valley (MTV) complex (22,604m²)
- 2020.03 Developed medium-voltage switchgear circuit breaker for earthquake-resistant reinforcement (0.5g) of Saeul #3 and #4

- 2021.03 Acquired green technology certification for 72kV environment-friendly gas insulated switchgear development technology
- 2021.10 Acquired ISO 45001 certification
- 2022.01 Developed 7.2kV 40KA 1250/2000/3150A arc panel
- 2023.04 Developed 25.8kV environment-friendly gas insulated switchgear
- 2023.07 Registered as a timber import distribution business (started fuel business)
- 2023.09 Developed 29kV environment-friendly gas insulated switchgear for electric railway
- 2024.01 MTV factory 1 and 2 integration

Appendix 2

Products

Distribution

- Medium-voltage & Low-voltage Switchgear
- Motor Control Center
- Eco-designed Load Break Switch

Transmission & Substation

- Gas Insulated Product
- Environment-friendly Gas Insulated Switchgear
- Protection Panel
- Vacuum Circuit Breaker

Medium-voltage Switchgear



Medium-voltage metal enclosed switchgear (for general industry & building equipment)

(MCSG 24kV "SVE" Type)



Medium-voltage metal enclosed switchgear

(MCSG 12/24kV "SDMG" Type)



Medium-voltage metal enclosed switchgear

(MCSG 7.2kV "SV" Type)

Low-voltage Switchgear



Low-voltage metal enclosed switchgear

(LVSG "SLV" Type)



Distribution panel

Motor Control Center



**Motor control center
(MCC-S Type)**



**Motor control center
(MCC-NS Type)**



**Motor control center
(MCC-MLS/EMLS Type,
IEC-61439-2)**



**Motor control center
(MCC-Xcell Type, IEC-
61439-2)**

Eco-designed Load Break Switch



Polymer insulated load break switch for 25.8kV underground line



Eco-designed epoxy insulated load break switch for 25.8kV overhead line

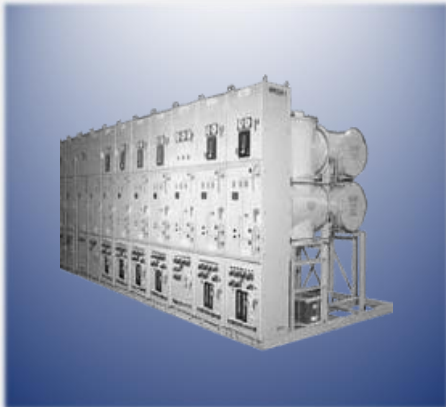
Gas Insulated Equipment



24kV Gas insulated metal enclosed switchgear



25.8kV Compact cubicle type gas insulated metal enclosed switchgear

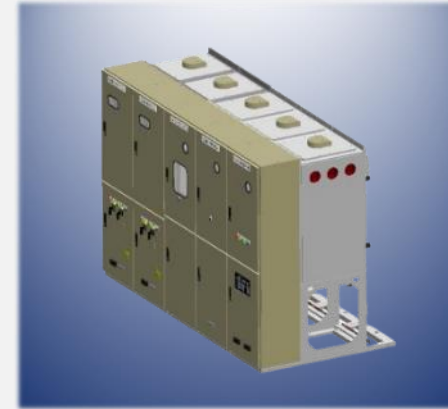


25.8kV Gas insulated switchgear

Environment-friendly Gas Insulated Switchgear



25.8kV Environment-friendly gas insulated switchgear



25.8kV Eco cubicle type gas insulated switchgear



29kV Environment-friendly gas insulated switchgear (For railroad)

Protection Panel



Transmission line protection panel
(154kV, 345kV, 765kV)



Transformers protection panel
(154kV, 345kV, 765kV)



Bus protection panel
(154kV, 345kV, 765kV)



Breaker failure protection panel
(154kV, 345kV, 765kV)

Vacuum Circuit Breaker



Vacuum circuit breaker
(VK-TYPE)



Vacuum circuit breaker
(SVE-10/20 M/P40)



Vacuum circuit breaker
(ANSI standard
compliant)

Appendix 3

References

Power Sector

Nuclear Power Sector

Railroad Sector

Fuel Cell/Power Generation/Thermal Power Sector

Industry/Plant Sector

Electrical Engineering Sector

Power Sector



Shin-Seosan Substation, etc.	2021 ~ 2024 Year	765kV Transmission line protection panel, Transformer protection panel, Bus protection panel, Breaker failure protection panel
West-Anseong Substation, etc.	2022 ~ 2024 Year	345kV Transmission line protection panel, Transformer protection panel, Breaker failure protection panel
Daedong Substation, etc.	2024 Year	154kV Transmission line protection panel, Bus protection panel, Transformer protection panel
Shin-Sihwa Substation, etc.	2023 Year	345kV Underground line fault detection device
Guri, Taepyeong Substation	2023 Year	25.8kV E-GIS

Nuclear Power Sector



Saeul Nuclear Power Plant #3, #4

2018 ~ 2023 Year

MV switchgear

Shin-Wolsong Nuclear Power Plant #1, #2

2009 ~ 2012 Year

MV switchgear

Radioactive Waste Disposal Facility

2010 Year

LV switchgear

Railroad Sector



Korea Railroad Corporation / Ilgwang-Taehwagang

2019 Year

29kV GIS

Korea Railroad Corporation / Taehwagang-Singyeongju

2019 Year

29kV GIS

Korea Railroad Corporation / Uiwang Auxiliary Substation

2019 Year

29kV GIS

Korea Railroad Corporation / Daegwallyeong-Gangneung

2017 Year

29kV GIS

Korea Railroad Corporation / Wonju-Dunnae

2017 Year

29kV GIS

Fuel Cell/Power Generation/Thermal Power Sector(KEPCO)



New Boryeong Thermal Power Plant	2015 Year	MCC
Boryeong Thermal Power Plant Units 1 and 2	2009 ~ 2012 Year	MV switchgear
Dangjin Thermal Power Plant	2007 Year	LV switchgear
Solar Thermal Power Plant	2006 Year	LV switchgear
Namjeju Thermal Power Plant	2006 Year	LV switchgear
Samcheok Green Power Plant	2014 Year	MV switchgear
Yeosu Thermal Power Plant	2005 Year	MCC

Fuel Cell/Power Generation/Thermal Power Sector



Hanwha Corporation / Tongyeong Eco Power Plant & LNG	2023 Year	MV switchgear, LV switchgear, MCC
Samchully ES / Purchase of Hwaseong Namyang Fuel Cell Phase 2 Power Generation Equipment	2023 Year	MV switchgear, LV switchgear, MCC
Doosan Enerbility / Samcheok Thermal Power Plant Units 1 and 2	2021 Year	MV switchgear, LV switchgear, MCC
SAE-A STX Entech / Samcheonpo Power Division Units 5 and 6 Environmental Facilities	2020 Year	MV switchgear, LV switchgear, MCC
Daewoo Engineering & Construction / Namjeju CCPP Project	2019 Year	MV switchgear, LV switchgear, MCC
SK Eco Plant / Goseong Hai Thermal Power Plant Units 1 and 2	2019 Year	MV switchgear, LV switchgear, MCC

Industry/Plant Sector(Samsung)



Pyeongtaek P3-PJT PH4	2023 Year	Distribution panel
Pyeongtaek P3-PJT PH3	2023 Year	MCC
Pyeongtaek P3-PJT PH2	2022 Year	MV switchgear, MCC
Pyeongtaek V2-PJT	2021 Year	MV switchgear, MCC
Pyeongtaek P3-PJT PH1	2021 Year	MV switchgear, MCC
Pyeongtaek P2-PJT PH4	2020 Year	Distribution panel, MCC
Pyeongtaek P2-PJT PH3	2020 Year	MV switchgear, MCC
Pyeongtaek P2-PJT PH2	2020 Year	MV switchgear, MCC
Pyeongtaek P2-PJT PH1	2020 Year	MV switchgear, LV switchgear, MCC

Industry/Plant Sector



Hanwha Corporation / Kumho LATEX N1 LINE	2023 Year	MV switchgear, LV switchgear, MCC
SK Hynix / M15 Ph-2 Project	2023 Year	MCP, MCC, Distribution panel, LTG Panel
Samwhan Corporation / Namyangju Jingeon Booster Pump Station Construction Project	2022 Year	LV switchgear, MCC
Samsung Corning Precision Materials Co., Ltd. / KC14, etc.	2021 Year	MV switchgear, LV switchgear
Sungshin Cement K/L Cooler	2020 Year	MV switchgear
GS E&C / Siheung Janghyeon Mokgam District Group Energy Facility Construction Project	2020 Year	MV switchgear, LV switchgear, MCC
Changwon GM Painting Plant New Construction Project	2019 Year	MV switchgear, LV switchgear, MCC
Daewoo E&C / S-OIL #2 SPM Construction Project	2019 Year	E-GIS, MV switchgear, LV switchgear, MCC
Hyundai Livart / Yongin Plant Integrated Logistics Center Expansion Project	2019 Year	LV switchgear, MCC

Electrical Engineering Sector



Sambu E&C / Gangneung Jumunjin Apartment Electrical Work	2024 Year
Sambu E&C / Ansan Seonggok-dong Complex Facility Electrical Work	2024 Year
Suwon Hwaseong Management Office / Electrical Construction for the Restoration and Maintenance of Hwaseong Haenggung Palace in Suwon	2023 Year
Jongha I&C / Electrical Construction for Automotive Facility in Gimpo	2023 Year
Jongha I&C / Renovation Project of Gangbuk Automobile Exhibition Hall	2022 Year
Jongha I&C / Electrical Construction for Automotive Facility in Jangam-dong, Uijeongbu City	2022 Year
Jongha I&C / Electrical Construction for Automotive Facility in Cheongpa-dong	2021 Year
Korea Expressway Corporation / Expressway Route No. 700 Daegu Outer Ring Road Electrical Construction Section 1 (Phase 2)	2020 Year
Gwangju City Hall / Gwangju City Private Communication Network Optical Cable Installation Project	2019 Year



Thank You!

Headquarter

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