

# **Company Profile**

**Leaders And Global**

**Date : 2023.3.29**

**Rev.1.1(ver.GP)**

# 1. Summary

## Company Status

<b>Company Name</b>	<b>Leaders and Global</b>
<b>Founding Date</b>	<b>January 29, 2013</b>
<b>Address</b>	head office : 231-26, Geumgok-ro, Dongtan-myeon, Hwaseong-si, Gyeonggi-do laboratory: 69, Geumgok-ro 257beon-gil, Dongtan-myeon, Hwaseong-si
<b>CEO</b>	<b>James</b>
<b>Employee</b>	<b>34 People</b>
<b>Major Business</b>	<b>Gas Purifier , Gas Box Pressure Transducer, etc</b>

## Company History

2013	01 Established 02 Developed a pressure transducer for semiconductor equipment 02 Developed ultra-high purity air purifier for semiconductor process (XPS) 03 Corrosion sensor development and patent acquisition 11 Acquired CE certification
2014	03 Company relocation (Class 100 Clean Room) 04 Acquired ISO 9001:2015/KSQ ISO 9001:2015 certification 10 Process gas distribution device development and patent acquisition 12 Developed ammonia purifier and acquired patent 12 Venture company certification
2015	01 Certified as an industry-academic cooperation family company by Korea Maritime & Ocean University 02 Developed and patented hydrogen gas purifier for methane removal 05 Established an affiliated research institute 05 Chemical leak detection device development and patent acquisition 09 Pressure Sense Explosion Proof Certification (Ex d IIC T6)
2016	05 Company new construction and expansion and relocation (Factory 1, Factory 2)
2017	03 Development of supercritical carbon dioxide gas purifier for semiconductors
2018	01 Acquired a patent for gas supply device for semiconductor manufacturing 10 High-purity gas purifier explosion-proof certification (Ex px IIC T4)
2019	10 Acquired risk assessment certificate from KOSHA
2020	09 Pressure sensor intrinsic safety certification (Ex ia IIC T4) 10 Portable purge system(PPS) for processing residual gas from national project process
2021	03 Acquired a patent for a mobile purge system for process residual gas treatment

## Business Area

### Equipment Business

GAS BOX, PPS, Piping-work  
(Gas Utility)

Ultra-high purity  
GAS/AIR PURIFIER, ICS

### Purchase / Component

MRO(Purchasing agent)

Pressure Transducer

## Sales Performance

(unit: won )

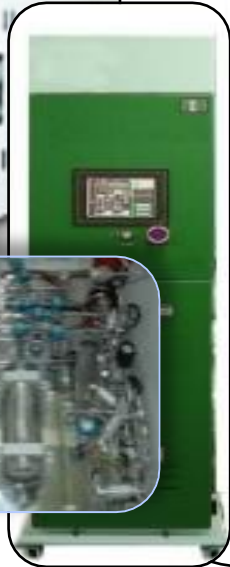
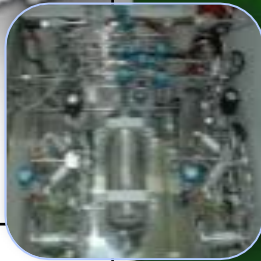
Division	2020	2021	2020	2021
Amount	5.8 billion	7.8 billion	11.4 billion	12 billion

(ref.) 1200 won = 1 USD

# 2. Main Products(Semiconductor, Display)

## GAS BOX / MANIFOLD

LCD, OLED Equipment



Vacuum and gas piping



Semiconductor Gas Utility



# 3. Main Products (Semiconductor, Display, LED)

## eXtreme Purification System(XPS)

### The GL-XPS Extreme Clean Dry Air Purification System

for semiconductor manufacturers  
with an innovative solution for  
lower energy costs, lower cost  
of ownership and resource  
conservation



#### 반도체 공정 장비용 초고순도 공기 정제기

The GL-XPS-N series is a state-of-the-art advancement in purification technology from Leaders and Global, providing for outlet purity in the ppt levels as removing gaseous contaminants such as volatile bases (NH3), volatile acids (SO2), condensable organics (Toluene), refractory compounds (HMDSO), moisture (H2O) from CDA (air). The system delivers purified Extreme Clean Dry Air (XPS) gas not only to reticle and wafer stockers but also the latest scanner platforms, including ArF dry and immersion lithography equipment. It uses ambient temperature purification based on the in-situ regeneration technology, automatically self-regenerate and switch-over by using two columns as well as automatically purging and conditioning. As a result, this system improves safety and eliminates human error or environmental concerns.

#### System Features and Safety

Contaminant removal efficiency ensures extreme clean process in ppt levels and low pressure drop as well as low cost of ownership with use of ambient temperatures where heating kit is not required. By system reliability, power failure will not damage the XPS. Optimized in-situ operation technology provides customers with automatically self-regenerate, guaranteeing a continuous flow of clean air gas and reduces interruptions to process gas flows. The system is designed for easy installation, field service and upgrades.

Features	Description
EMO (Remote EMO)	When activated, power is removed from the enclosure. The system shuts down and process gas flow is shut off. (Remote EMO alerting the facility)
Audible alarm (Remote alarm) Visual alarm	Audible warning informs of alarm condition (Remote alarm alerting it) Visually warning information on the top of the system
Over-temp, rise condition	Monitored high-temp. sensor. A high-temp. hardware interlock is installed on the systems as a secondary precautionary device
Circuit breaker	Additional electrical protection to the system
Color Touch screen	Provides operating information and system status
Main system switch	Powers the system on and off
Start button	Begin system operations and to clear alarms

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리더스  
글로벌

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## Inert gas Circulation System(ICS)

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글로벌



### Inert gas Circulation Purifying System for Glove Box, volume 2m<sup>3</sup> ~ 200m<sup>3</sup>

#### 반도체, OLED용 자동순환정제기

ICS-Series (Inert gas Circulation System) are newly, automatically purifying and circulating pure atmosphere with oxygen and moisture levels below 1ppm through enclosure (volume 2m<sup>3</sup> up to 200m<sup>3</sup>) of glove box in Semiconductor, LCD/OLED, Smart Window industry, and also designed auto-switchover, auto-leak check, auto-purge, auto-regeneration as our highest operational standard. In order to continually remove oxygen and moisture during gas circulation, special blower and two reactor columns are installed. Optionally, solvent removal. All process basic parameters like moisture, oxygen, pressure are not only monitored by safety sensors but also utilities like working gas, control gas, regeneration gas are controlled during processing.

#### System Features

Sub ppm level impurity removal (O<sub>2</sub>: < 1ppm, H<sub>2</sub>O: < 1ppm: ISO10648-2 Class1) with catalyst and adsorbent  
PLC based automatic controller with touch panel display  
Standard mode operation for energy saved quality control  
Single & Multiple reactor columns  
Optimum performance for attached enclosure volume (2~200m<sup>3</sup> models, optional up to 1,000m<sup>3</sup>)  
Capacity to remove 20~4,000 liter of O<sub>2</sub> and 1,000~200,000g of H<sub>2</sub>O (standard model)

specifications are subject to change without notice

주리더스엔글로벌  
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# 4. Main Products (Semiconductor, Display, LED)

## High Pressure Gas Purifier (HGPS)



High Pressure Gas Purifier GN series(Getter) for Helium Gas

| 반도체용 고압 정제기

This equipment utilizes getter reaction processes and is designed specifically to provide ultra-high purity gas for semiconductor applications. Outlet impurity levels for Oxygen (O<sub>2</sub>), Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Hydrogen (H<sub>2</sub>), Methane (CH<sub>4</sub>), Nitrogen (N<sub>2</sub>) and Water vapor (H<sub>2</sub>O) are reduced to low parts per billion (ppb) levels.

The getter alloy, operated at elevated temperatures, removes impurities by forming irreversible chemical bonds. Hydrogen Removal Unit (HRU) is designed to remove H<sub>2</sub> from purified gas. Impurities will not be released under any circumstances when purifier is operated within specification.

The purifier will continuously supply ultrapure gas at full flow for one to two years before getter cartridge replacement is necessary provided that inlet impurity levels are within maximum specified levels.

### Features of Equipment

- Our original getter makes high quality purification.
- High performance filter and the use of electropolished pipe after the last filter performs Non-particle system.
- The equipment is operated full-automatically by programmable controller.
- The purifier maybe used with from helium gas (He) at pressure up to 200bar~500bar
- Optionally, manual bypass valve, moisture analyzer, mass flow meter(MFM),
- UPS(Uninterruptible power supply), MODBUS data communication

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GLOBAL**

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## High Pressure Gas Purifier(GAS PURIFIER)

**Carbon Dioxide Purifier**  
이산화탄소 고순도 정제기  
Gas Purification System

**Adsorption and Catalyst Bed Purification Technology**

The Carbon Dioxide Gas Purifier is designed to provide ultra-high purity gas for semiconductor applications. Outlet impurity levels for Oxygen (O<sub>2</sub>), Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Hydrogen (H<sub>2</sub>), Methane (CH<sub>4</sub>), Nitrogen (N<sub>2</sub>) and Water vapor (H<sub>2</sub>O) are reduced to low parts per billion (ppb) levels.

**Standard Features**

- Stable Helium and Nitrogen at high temperature.
- Stable High Pressure.
- High purity Hydrogen and Water Vapor.
- Backup Power System for Temperature Control.

**Optional Features**

- Calculation using MODBUS, MODBUS TCP/IP (Ethernet).
- High purity Hydrogen and Water Vapor.
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**Adsorption and Catalyst based Gas Purifier**  
흡착 / 촉매 방식 고순도 정제기  
Gas Purification System

**Adsorption and Catalyst Bed Purification Technology**

The Adsorption and Catalyst based Gas Purifier is designed to provide ultra-high purity gas for semiconductor applications. Outlet impurity levels for Oxygen (O<sub>2</sub>), Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Hydrogen (H<sub>2</sub>), Methane (CH<sub>4</sub>), Nitrogen (N<sub>2</sub>) and Water vapor (H<sub>2</sub>O) are reduced to low parts per billion (ppb) levels.

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**Adsorption, Catalyst and Getter based Gas Purifier**  
흡착 / 촉매 / 게터 방식 고순도 정제기  
Gas Purification System

**Adsorption, Catalyst, and Getter Bed Purification Technology**

The Adsorption, Catalyst, and Getter based Gas Purifier is designed to provide ultra-high purity gas for semiconductor applications. Outlet impurity levels for Oxygen (O<sub>2</sub>), Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Hydrogen (H<sub>2</sub>), Methane (CH<sub>4</sub>), Nitrogen (N<sub>2</sub>) and Water vapor (H<sub>2</sub>O) are reduced to low parts per billion (ppb) levels.

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**Getter based Gas Purifier**  
게터 방식 고순도 정제기  
Gas Purification System

**Getter-based Purification Technology**

The Getter based Gas Purifier is designed to provide ultra-high purity gas for semiconductor applications. Outlet impurity levels for Oxygen (O<sub>2</sub>), Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Hydrogen (H<sub>2</sub>), Methane (CH<sub>4</sub>), Nitrogen (N<sub>2</sub>) and Water vapor (H<sub>2</sub>O) are reduced to low parts per billion (ppb) levels.

**Standard Features**

- Stable Helium and Nitrogen at high temperature.
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# 4-1. Purifier Sample Photo



**Nitrogen**



**Nitrogen**



**Hydrogen**



**Helium**

# 5. Main Products (Semiconductor, Display, LED)

## Pressure Transducer(PT)



The GL P-series is extremely low internal volume and excellent long-term stability as utilizing sensor available for UHP pressure transducers, sputtered Metal Thin Film Technology, it is technologically advanced products for gas supply system / gas distribution system, process tools,



The GL IGS-series is extremely low internal volume and excellent long-term stability as utilizing sensor available for UHP pressure transducers, sputtered Metal Thin Film Technology, it is technologically advanced products for gas supply system / gas distribution system, process tools,

## Explosion-proof Pressure Transducer(PT)



The GL EXi-series is extremely low internal volume and excellent long-term stability as utilizing sensor available for UHP pressure transducers, sputtered Metal Thin Film Technology, it enables them to be used **under dangerous and harsh conditions (Zone 0~2)** on specialty gas installations. Applications are gas supply system / gas distribution system, process tools,

LEADERS & GLOBAL only specializes in the manufacture of UHP Products for Semiconductor / OLED / LCD / LED / Sily Cl



The GL ExP-series is extremely low internal volume and excellent long-term stability as utilizing sensor available for UHP pressure transducers, sputtered Metal Thin Film Technology, it enables them to be used **under dangerous and harsh conditions** on specialty gas installations. Applications are gas supply system / gas distribution system, process tools,

# 6. Factory and facility view



Address

head office : 231-26, Geumgok-ro, Dongtan-myeon, Hwaseong-si, Gyeonggi-do

laboratory: 69, Geumgok-ro 257beon-gil, Dongtan-myeon, Hwaseong-si



# 7. Facility and Equipment Status

## AUTO WELDER



MAKER : AMI , CAJON  
MODEL : AMI 207,M100,200

## TUBE CUTTER



MAKER : CUTTECH/TRITOOLES  
MODEL : SITEC200/1301P

## PARTICLE COUNTER



MAKER : AERO TEAK  
MODEL : 9110

## MANUAL WELDER



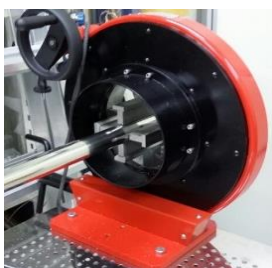
MAKER : Dongyang  
MODEL : DM-350D

## H2O/O2/CH4 Analyzer



MAKER : TELEDYNE, Tiger  
MODEL : 8800A, Trace O2

## PIPE CUTTER



MAKER : PIPE CUTTER  
MODEL : SXXAIR

## Helium Leak Detector



MAKER : ADIXEN  
MODEL : ASM340

## BOOSTER



MAKER : DHC  
MODEL : DGP 5G SS50H

## Surface roughness tester



MAKER : TIME, L&G  
MODEL : TR200, GL-T-002

## Ultrasonic analyzer



MAKER : GE  
MODEL : USLT-USB

# 8. Intellectual property rights (Patent, Certification)

Item	Title	DATE	NO.
Patent	1 Process gas distribution device with gas leak test ft.	2014.07.25	2012-0046049
	2 Corrosion detection sensor and method	2014.07.30	2011-0122265
	3 NH3 Purification Process	2014.12.22	2013-0028686
	4 Hydrogen Purification Process	2015.02.25	10-1497952
	5 Chemical leak detection device using corrosion sensor	2015.05.29	10-1525782
	6 Gas supply for semiconductor manufacturing	2018.06.08	10-1868316
	7 Portable Purge System(PPS) for process residual gas treatment	2021.03.26	10-2235005
Certification	1 ISO 9001: 2015 / KS Q ISO 9001: 2015 Certi.	2014.04	KECR-233Q
	2 PT(Pressure Transducer) CE CERTIFICATE	2013.11	EC1282-1S131126.LAG3249
	3 PT Explosion-proof certification(Ex dII T6)	2015.09	15-GA2BO-0623
	4 PT Intrinsically Explosion-proof certi.(Ex ia IIC T4)	2020.09	20-KA2BO-0770(KTL)
	5 GP(Gas Purifier) Explosion-proof certi.(Ex px IIC T4)	2018.10.23	18-GA2BO-01531X
Acknowledgement	1 Venture company	2014.12	2015112700
	2 R&D Center	2015.05	20140113546



# 8. Delivery Performance

Customer	Type	Gas	Flow Rate (max.)	Spec. (std.)
U*C社 (Semiconductor)	Catalyst/Adsorber	N2	3,000 Nm3/hr	< 1 ppb
	Catalyst/Adsorber	O2	30~100 Nm3/hr	< 1 ppb
	Getter	H2	40 Nm3/hr	< 1 ppb
	Getter	Ar	100 Nm3/hr	< 1 ppb
	High Pressure Getter	He (150bar)	30 Nm3/hr	< 1 ppb
D*B社 (Semiconductor)	Getter	H2	100 Nm3/hr	< 1 ppb
	Catalyst/Adsorber	O2	200 Nm3/hr	< 1 ppb
	Getter	Ar	100 Nm3/hr	< 1 ppb
	High Pressure Getter	He (150 bar)	50 Nm3/hr	< 1 ppb
A*L社 (Process Equipment)	Getter	H2	40~100 Nm3/hr	< 1 ppb
	Catalyst/Adsorber	O2	100~200 Nm3/hr	< 1 ppb
	Getter	Ar	10~50 Nm3/hr	< 1 ppb
	Getter	He	10~50 Nm3/hr	< 1 ppb
	Catalyst/Adsorber	N2	40~200 Nm3/hr	< 1 ppb
O*I社	Catalyst/Adsorber	Ar	100 Nm3/hr	< 1 ppb
Others (Semiconductor) Etc.	Getter	Ar	50 Slpm	
	Getter	He	50 Slpm	
	Getter	Xe	2 Nm3/hr	
	Adsorber	Cl2	10 Nm3/hr	
	High Pressure Catalyst/Adsorber	Ne (200 bar)	60 Nm3/hr	
	High Pressure Catalyst/Adsorber	N2 (200bar)	60 Nm3/hr	
	High Pressure Catalyst/Adsorber	O2 (150bar)	30 Nm3/hr	
	High Pressure Catalyst/Adsorber	N2 (400 bar)	10 Nm3/hr	
High Pressure Getter	H2 (200 bar)	20 Nm3/hr		