



FOR GREEN & CLEAN EARTH

Are you seriously suffering from contamination by harmful and toxic gases at your laboratory?
Here we are offering ductless complete removal solutions with
TOGA CLEAN SYSTEMS and **COMPLETELY CLOSED REAGENT STORAGE**S.

You will be absolutely free and comfortable while working.

Complete Removal of
Toxic Gases
Carcinogens
VOC's
Bacteria, Fumes & Dusts



For Green and Clean Earth...

All of GT Products, TOGA Clean Systems, Completely Closed Reagent Storages and Lab Conditioners are designed for protecting the Earth through significantly cutting down on Carbon dioxide levels.



Green Technology Science & Environment

GT Scien Company pursues protecting the Earth from contamination and pollution. Climate seriously which causes frequent natural disasters in the world. In order to reduce global warming, we have to reduce carbon dioxide emission, which can be achieved through reducing energy consumptions. World nations expected the climate change by global warming world would cause huge natural disasters to human beings.

- Adopted United Nations Framework Convention on Climate Change(UNFCCC) at Rio Environmental Conference in 1992
- Entered into force in 1994 after 154 nations' approval.
- Kyoto Protocol was adopted in Kyoto, Japan, 1997
- Entered it into force, 2005.

The Kyoto Protocol is an international agreement linked to the United Nations Framework Convention on Climate Change. The major feature of the Kyoto Protocol is that it sets binding targets for 37 industrialized countries and the European community for reducing greenhouse gas (GHG) emissions .These amount to an average of five percent against 1990 levels over the five-year period 2008-2010.

Milestone

2008 ~ 2011

- 2008 04** GT Scien Co.,Ltd
World First TOGA clean filter
World First TOGA Clean System
- 2009 02** Venture company registered
- 2009 03** ISO 9001 / ISO 14000 certified
- 2009 07** World First Completely Closed Reagent Storage
- 2010 02** TOGA clean system patent
- 2010 04** TOGA Reagent Storage registered PPS (Public Procurement Service)
- 2010 06** TOGA Reagent Storage patent
- 2010 08** TOGA clean system apply PCT
- 2010 11** TOGA clean system registered PPS
- 2011 03** Arab Lab 2011 Exhibition
- 2011 09** JAIMA Exhibition
- 2011 11** Green Technology Certified Company R&D Center
- 2011 12** Refrigerated Reagent Storage patent

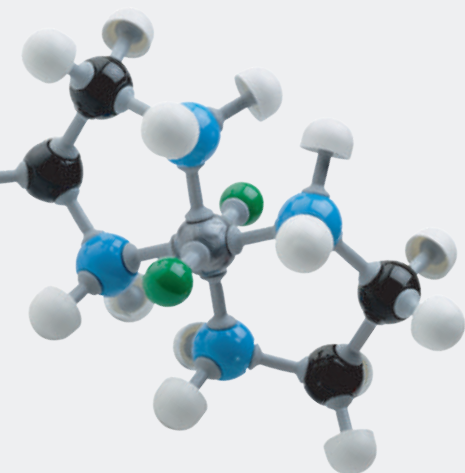
2012 ~ 2013

- 2012 01** Refrigerated Reagent Storage apply PCT
- 2012 03** Arab Lab 2012 exhibition
- 2012 06** ACHEMA exhibition, Germany
- 2012 09** JASIS 2012 exhibition, Japan
- 2012 10** Analytica China 2012 exhibition Export in 15 countries(21 distributors) Refrigerated Reagent Storage apply patent to India
- 2013 01** Apply patent to China
- 2013 03** Arab Lab 2013 Exhibition
- 2013 04** China Western CSIE 2013 Exhibition TOGA Reagent storage design enrolled
- 2013 05** Global Excellent Firm
- 2013 07** TOGA clean system design enrolled Geumsan Factory
- 2013 09** Analitica Latin America Exhibition
- 2013 11** Laboratory Furniture, Hume Hood released
- 2013 12** Reagent Integrated Management System

2014 ~ 2015

- 2014 02** Ventilated Laboratory Table released TOGA clean system patent in China
- 2014 03** PITTCON Exhibition, U.S.A
- 2014 04** ANALYTICA Exhibition, Germany
- 2014 04** Laboratory Furniture, Fume hood registered PPS
- 2014 06** KOREA LAB 2014 Exhibition
- 2014 06** World First Toxic gas free Refrigerated Reagent Storage released
- 2014 09** TOGA clean system patent in U.S.A
- 2014 10** China(Dongguan) corporation establishment Ventilated Laboratory Furniture patent
- 2014 12** INNO-BIZ certified
- 2015 01** TOGA-S02 CE certified
- 2015 01** Toxic gas free Refrigerated Reagent Storage Patent in China
- 2015 04** KOREA LAB 2015 Exhibition
- 2015 05** IoT Integrated RSMS (Reagent Safety Management System)





Are You Seriously Suffering from Following Harmful and Toxic Gases at Your Lab?

VOCs(Volatile Organic Compounds)

■ Benzene

Carcinogen Causes cancer when exposed longer time even at lower concentration.

■ Carbon tetrachloride

Carcinogen Causes cancer when exposed longer time even at lower concentration.

■ Trichloroethylene

Carcinogen Causes cancer when exposed longer time even at lower concentration.

■ Toluene

Reduces ability of central nerve system

■ Ethyl benzene, Styrene, Xylene

HCHO(Formaldehyde)

Carcinogen

- Internationally Regulatory compounds
- headache, fatigue, skin eruption
- Abnormal disorder of respiratory tract, central nerve system, immune system and endocrine system.

SO₂

- Inflames nasal cavity and throat
- Causes respiratory disease such as emphysema of the lungs, bronchial trouble, inflammation of the lungs and asthma
- Allowed concentrations : less than 2 ppm

NO₂

- Causes respiratory disease similar with SO₂
- Causes emphysema of the lungs, bronchial trouble and lung cancer
- Allowed concentrations : less than 2 ppm

NH₃

- Strong smell at 100 ppm which stimulates nose
- 20 ppm is minimal concentration for damage

HCl

- Regulatory concentration : 5 ppm(Japan)
- Causes to death from edema of the lungs if inhale large amounts

H₂S

- Regulatory concentration : 1 ppb(Japan)
- Causes female sterility

HF

- Regulatory concentration : 1 ppm(Japan)
- Stimulates eyes, nose and throat strongly
- Causes emphysema of the lungs and bronchial trouble
- Chronic symptoms such as inflammation on respiratory tract
- Variation on teeth and bones



Do You Need a Safe and Clean Laboratory?

Here We Are Offering Ductless Complete Removal Solutions for the Gases.

Fully Compliance with Korean Regulation on Laboratory Safety Enforced on April 1, 2006



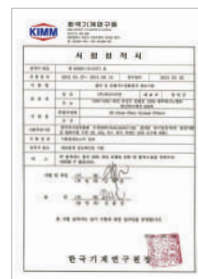
What is TOGA Clean System?

TOGA Clean System is a necessary laboratory equipment as it supplies clean and pleasant laboratory environment to chemists and researchers by complete removal of Toxic gases, VOC's, Offensive smells and Fumes generated during experiments and chemical reactions through effective neutralization.

Test certificates by KOREAN Authorities



By Hanbat National University



Korea Institute of Machinery & Materials

Removable harmful/toxic gases and materials

- **Carcinogens** : Benzene, Toluene, Carbon tetrachloride, Formaldehyde, Trichloroethylene and etc.
- **VOC's** : Xylene, Methanol, Ethanol, and etc.
- **Toxic Gases** : NH₃, HCl, H₂S, HC, HF, Cl₂, SO_x, NO_x and etc
- **Bacteria, Molds, Ticks, Fine Dusts, Offensive Smells, Fumes and etc**



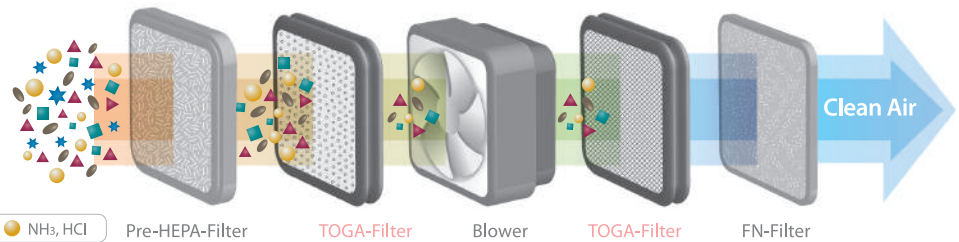
TOGA Removal Process & Filters

World first toxic gases free storage by complete removal toxic gases volatilized from reagents with TOGA Filter Technologies.

Features of TOGA Filters



- Better than 99.7% removal of toxic gases volatilized from reagent storage
- Around 1 year long life time of filters by chemical reaction filtration
- World first and unique technology
- Custom made filters as per different laboratory environments



■ TOGAFIL A

- Excellent removal of VOC's, Alcohols, Hydrocarbons and offensive smells
- Non flammable and no bacteria propagation
- Better than 99% removal efficiency for even lower concentrations by excellent particle distribution and wide surface area of filters

■ TOGAFIL B

- Excellent removal of organic compounds and O₃, NH₃ and offensive smells
- No bacteria propagation but not for use at high temperature more than 130 degree C
- Better than 99.8% removal efficiency for even lower concentrations by excellent particle distribution and wide surface area of filters

■ TOGAFIL C

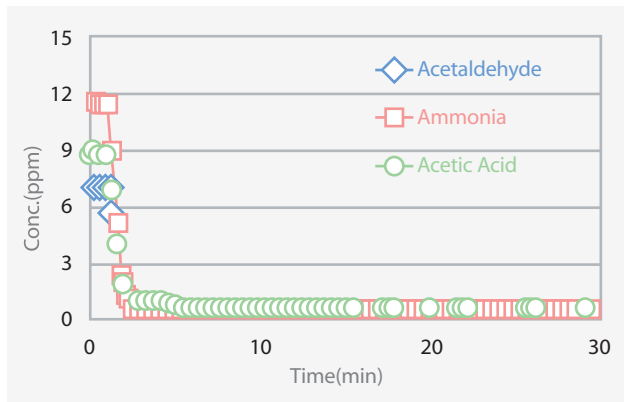
- Excellent removal of NO_x, SO_x, acids and bases
- Non flammable and suppression of bacteria propagation
- Better than 99.8% removal efficiency for even lower concentrations by excellent particle distribution and wide surface area of filters

■ **HEPA Filter** : Removes 0.3 μ m fine dusts, ticks and fumes

■ **FN-Filter** : Removes small amounts of CO₂ desorbed by neutralization of harmful gases through TOGA Filters

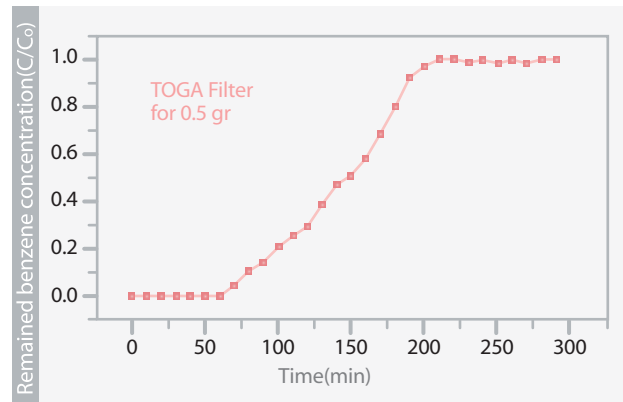


Representative Stink Removal



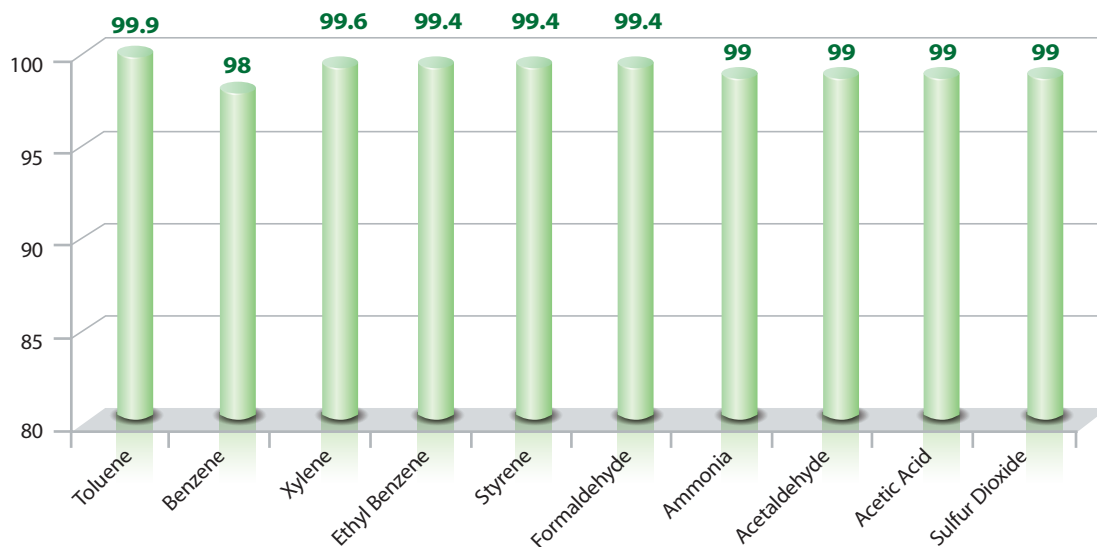
<Authorized by Korea Institute of Machinery and Metals>

Break-Through Curve for Benzene



<Authorized by Chung-Nam National Univ.>

Purifying Ability of TOGA Filter for Harmful Gases



<Authorized by Korea Institute of Machinery and Metals>



:: TOGA Clean System

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Intelligent TOGA Clean System MOVABLE TYPE

Remove and purify harmful gases and stenches at the certain zone



Features

- Adjustable wind velocity as experimental application (5 step)
- Alarm : Replacement period of filters
- Preset Operation Time
- Auto control by density of VOC's
- Lower maintenance cost by patented unique and fittest filters
- TOGA filter : removal of harmful gases, VOC's, offensive smells and fumes
- Pre-HEPA filter : removal of 0.3um fine dust to prolong HEPA filter greatly
- Easy to move by rolling casters for local cleaning and exhaustion
- Ductless Type : easy installation and prevention of heat-loss
- Compact design with Flexible Arm rotating in a 360° arc
- Chemical motor : special coil and bearing for no chemical reaction
- Turbo blower : High efficient specially designed blower
- Lower noise and soundproofing : by melamine absorption board and vibration pad

Specification

Model	TOGA - M01D
Removal	Better than 99.7% of Harmful and Toxic Gases, VOC's, Offensive Smells and Fumes
Replacement period of filters	Around 1 Year
Absorption capacity	10m ³ /min
Power consumption	169W
Power input	220V, 50/60Hz
Adjust wind velocity	5 Step
Running mode for VOC's	5 Step / Auto
Weight	65kg
Dimension	400 x 400 x 960mm

Korea Patent (10-0941666)
U.S.A Patent (US 8,845,971 B2)
Certificate of CE , ISO9001, ISO14001



Intelligent TOGA Clean System **STAND TYPE**

Remove and purify harmful gases and stenches at the laboratory



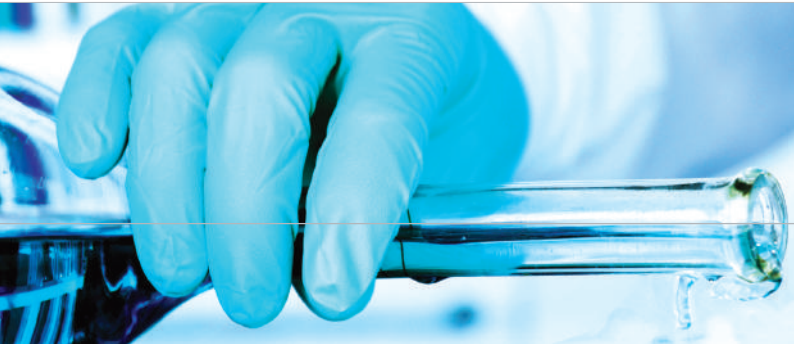
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- **Chemical motor** : special coil and bearing for no chemical reaction
- **Turbo blower** : High efficient specially designed blower
- **Lower noise and soundproofing** : by melamine absorption board and vibration pad

Specification

Model	TOGA-S01D	TOGA-S02D
Removal	Better than 99.7% of Harmful and Toxic Gases, VOC's, Offensive Smells and Fumes	
Replacement period of filters	Around 1 Year	
Absorption capability	39.6m ²	79.2m ²
Power consumption	169W	
Power input	220V, 50/60Hz	
Adjust wind velocity	5 Step	
Running mode for VOC's	5 Step / Auto	
Weight	98kg	110kg
Dimension	450 x 400 x 1,630mm	500 x 450 x 1,750mm



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Intelligent Ductless FUME HOOD

Ductless Fume Hood Benefits

- Adjustable 5 step wind velocity
- Air pollution displayed by LED light
- Alarm for filter exchange time
- Reasonable filter selection to the certain harmful gas

Features

- **TOGA Filter** : Removal of harmful gases, offensive smells, fumes
- Easy move by rolling casters for local cleaning and exhaustion
- **Ductless Type** : easy installation and prevention of heat-loss
- **Alarm** : Display replacement of filter
- Compact design
- Transparent Polycarbonate allow Easily viewing in the chamber
- By fast purifying step, protect user from harmful gas etc

Specification

Model	TOGA-DFH900	TOGA-DFH1200
Dimension	Out	900 X 700 X 1170
	In	884 X 660 X 710
	Frame	900 X 700 X 1845
Weight	145kg	
Exterior material	Steel (Iron1.2T) with Powder coating Polycarbonate(PC)	
Frame	50 X 50 X 1.4T	
Filter	TOGA Filter/ Pre / HEPA-Filter / FN-Filter	
Replacement filter	1 YEAR	
Power input	220V, 50/60Hz	
Power consumption	101W	
Fan	220V/85W, 750CMH	
Fluorescent Lamp	LED Lamp	

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IoT Integrated Management System



IoT Integrated RSMS(Reagent Safety Management System)
Ubiquitous computing environment for Reagent



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Reagent Safety Management System

What is RSMS?

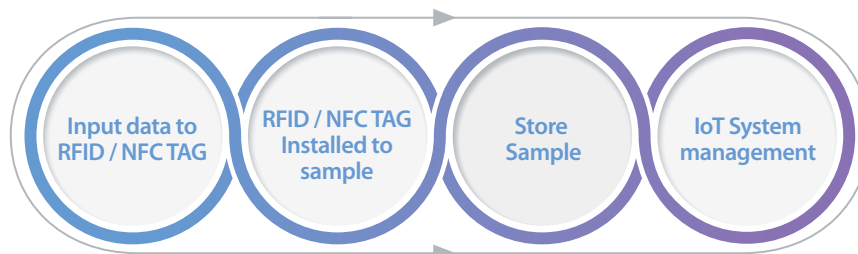
The RSMS(Reagent Safety Management System) has very aggressive Security, Safety, Smart management function. By RFID, All stored items are controlled.

IoT Integrated RSMS (Reagent Safety Management System)

1. Managing Reagent IN&OUT History
2. User History Management
3. Expiration date alarm
4. Monitoring data with APP
5. Identifying Reagent location
6. Reagent classify function

Monitoring data with App

Optimized management system



Reinforced Security

Access the sample by the fixed user with NFC/TAG, Secret code.
All sample data of released / stored are saved.
All data is shared with App.

Reagent database service

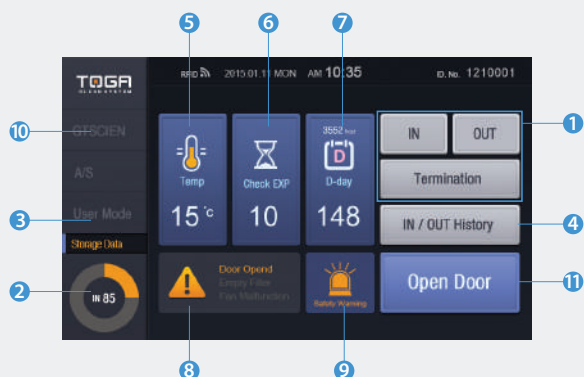
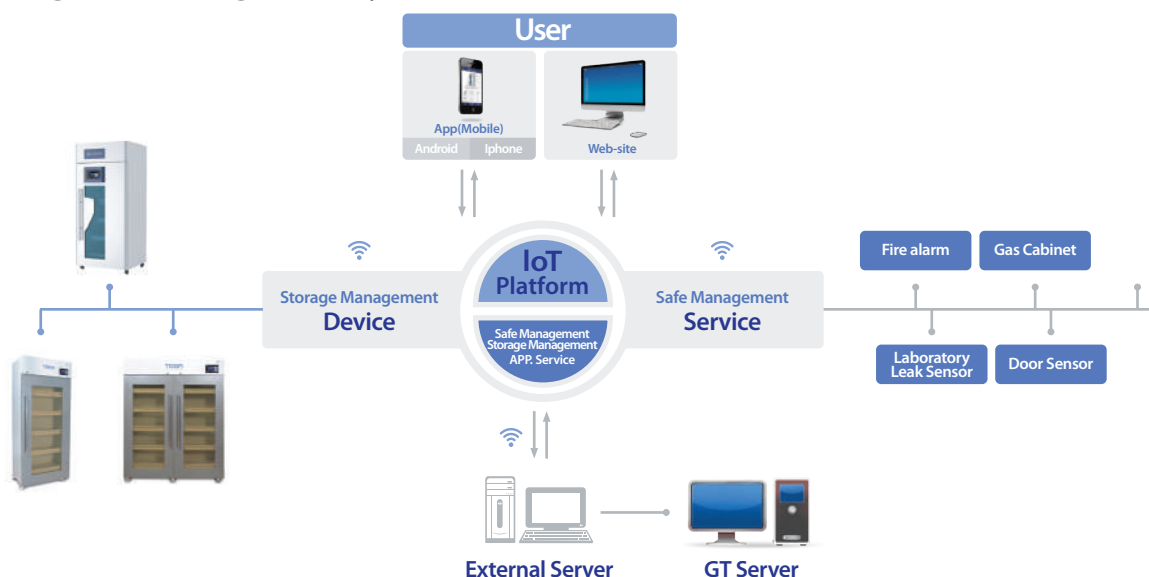
GTscien Reagent database lead comfortable data input service.
Also, by CAS number, Reagent data is able to be input.

IoT Integrated Management System

IoT Integrated RSMS(Reagent Safety Management System)
Ubiquitous computing environment for Reagent

- Safe management by RFID
- Real time monitoring
- Date monitored with App
- Networking alarm service connected alarm sensors for Gas, Fire etc

IoT Integrated Management System



7" Touchpad IoT Platform

Easy Tasking Interface

- | | |
|------------------------------|---|
| 1. Reagent IN/OUT & Discard | 7. Alarm for expired data |
| 2. Storage data | 8. Alarm connected external alarm sensors |
| 3. Reagent classify function | 9. Warning display |
| 4. Reagent IN&OUT History | 10. Connected Homepage or Manual |
| 5. Temperature | 11. Door open |
| 6. Expired sample data | |



IoT Intelligent & Toxic Gas Free Refrigerated Reagent Storage

Safety Lab, Clean Lab, Smart Lab

Your labs will be advanced by IoT Technology & Innovative TOGA filter technology



Features

- Intelligent IoT platform
- Solving the risk of reagent losing & squandering by Safe management
- Alarm for expired date
- Real time monitoring service for stored and released reagent
- Patented TOGA filter system
- Protect user's health from Toxic gas
- Optimized management system for LMO/GMO
- Environment Pollution is minimized by management of overdue reagent
- Creative Patented construction support superb temp. uniformity
- Multi-insulation to prevent heat loss
- Durable high quality fan : Using water-proof fan, increase the life time

Specification

Model	TOGA – UGSR01
Dimension	External : 880(W)X795(D)X2070(H)mm
	Internal : 660(W)X560(D)X1450(H)mm
Volume	536L
Temperature Range	2°C ~ 25°C
Temperature Deviation	at 10 measuring points
Purification Technology (Patented TOGA filter system)	Remove over 99.7% of Toxic gases
	Filter life time : 1year
Power	110/220V, 50/60Hz, 800W, 1.1Kw
Sound level	< 50dB
Weight	250kg
Shelf	5ea (Sliding shelf, adjustable height)
Controller	7" Touch Pad
	Temp. display , Alarm(Safety alarm system)
	Management : Store and released reagent, User, expire date
	User Interface, Electronic door lock
IoT server system	RFID/NFC system
	Multi units control and management
	Real Time data transfer
	Data logging management

Korea Patent (10-0941666)

(10-1233641)

(10-1103031)

U.S.A Patent (US 8,845,971 B2)

Certificate of CE , ISO9001, ISO14001

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Completely Closed Reagent Storage

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Features

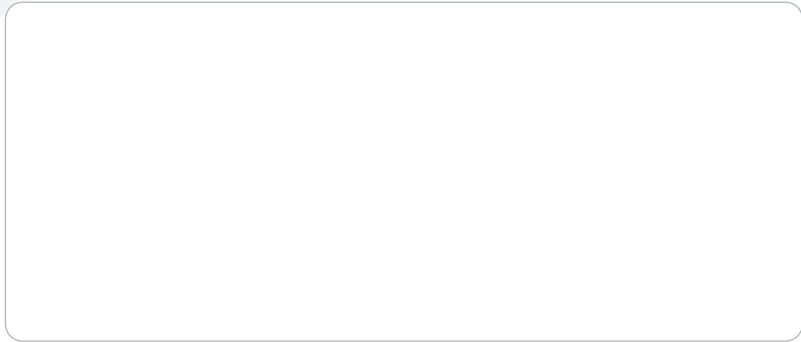
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- Alarm for expired date
- Real time monitoring service for stored and released reagent
- Patented TOGA filter system
- Protect user's health from Toxic gas
- Environment Pollution is minimized by management of overdue reagent

Specification

Model	TOGA-UGS01	TOGA-UGS02
Dimension	Exterior 800(W)X540(D)X1950(H)mm	Exterior 1600(W)X540(D)X1950(H)mm
	Interior 690(W)X550(D)X1580(H)mm	Interior 1480(W)X500(D)X1580(H)mm
No. of Reagent Storage	1L 120 bottles	1L 260 bottles
Purification Technology	Patented TOGA filter system	
	Remove over 99.7% of Toxic gases	
	Filter life time : 1year	
Power	110/220V, 50/60Hz, 20W	110/220V, 50/60Hz, 55W
Weight	150kg	250kg
Shelf	5ea (sliding shelf, adjustable height)	
Controller	7" Touch Pad	
	Temp. display, Alarm	
	Management : Stored and released reagent, User, expire date	
	User Interface, Electronic door lock	
	Safety alarm system	
IoT server system	RFID/NFC system	
	Multi units control and management	
	Real Time data transfer	
	Data logging management	

Korea Patent (10-0941666)
(10-1233641)
(10-0963597)

U.S.A Patent (US 8,845,971 B2)
Certificate of CE , ISO9001, ISO14001



Headquarters

Address : 222, Hanshinsmecca, 65, Techno 3-ro, Yuseong-gu, Daejeon, Korea

TEL : +82-42-936-4520 **FAX :** +82-42-621-2892

Seoul Office (International Business)

Address : 210, Ace Highend Tower 9, 233, Gasan digital 1-ro, Geumcheon-gu, Seoul, Korea

TEL : +82-2-6116-6547~8 **FAX :** +82-2-6116-6549

Factory (Research Institute)

Address : 343-2, Sangdong-ri, Namil-myeon, Geumsan-gun, Chungcheongnam-do, Korea

TEL : +82-41-753-4536 **FAX :** +82-41-753-4537

E-mail : gtscien@gtscien.com **Web-site :** www.gtscien.com



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These products are manufactured in the GT Scien
ISO 9001/14001-certified facility that is periodically audited
by the registered body to ensure compliance.

