



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.



Certificate of Patent
(10-0963597)



Certificate of Patent
(10-0941666)



Certificate of Patent
Registration (10-1103031)



ISO 9001:2008
(KorQ-095110)



ISO 14001:2004
(KorE-092480)

GT SCIEN

Green Technical 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

2000

- 2000 10 Gentech Science Co., Ltd.
- 2002 Smeg Lab Glass washer
- 2003 Barnstead water purification System
- 2005 Waters Consumables Parker/Balston Generators and filters
- 2006 CM Corporation Sample prep
- 2007 Sibata Animal Toxicity Testing Measuring System for In-Door Air
- 2008 Esco Clean Bench

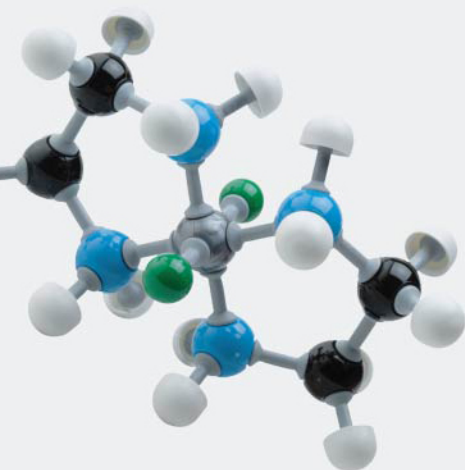
2008

- 2008 04 GT Scien Co., Ltd.
- 2008 09 World first TOGA Clean System
- 2009 02 Venture company registered
- 2009 03 ISO9001/14000 certified
- 2009 07 World First Completely Closed Reagent Storage
- 2010 08 Export to Japan
- 2010 12 International Business Division

2011/2012

- 2011 03 Arab Lab Exhibition
- 2011 06/10 China Lab Exhibition Shanghai and Beijing
- 2011 07 Overseas Export (Iran, Saudi Arabia, New Zealand, Japan, India, China etc.)
- 2011 12 World first Reagent Storage for Cooling Type
- 2011 12 CE Certificate
- 2012 03 Arab Lab Exhibition
- 2012 06 Achema Exhibition
- 2013 03 Arab Lab Exhibition
- 2013 09 Latin Analytical Exhibition





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

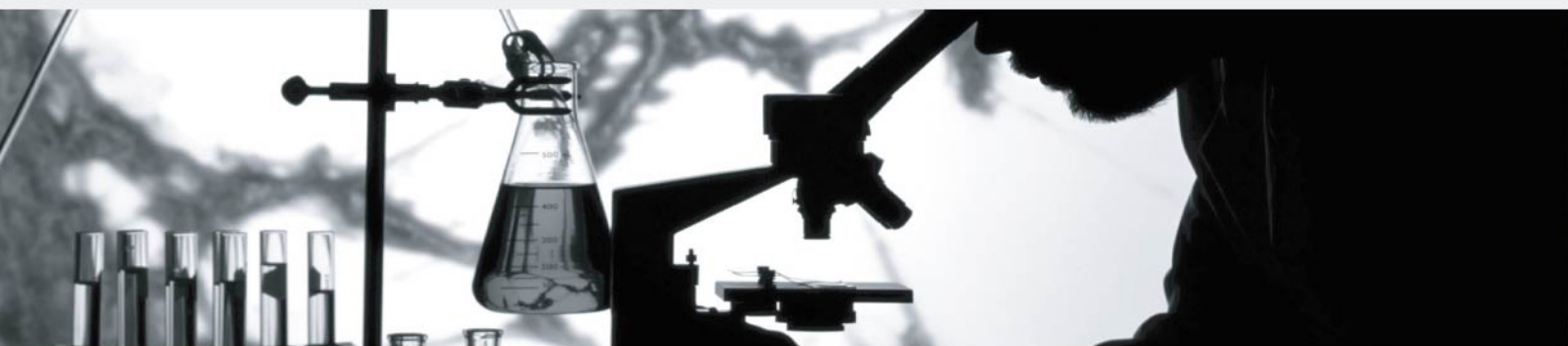
- Regulatory concentration : 5 ppm(Japan)
- Causes to death from edema of the lungs if inhale large amounts

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.

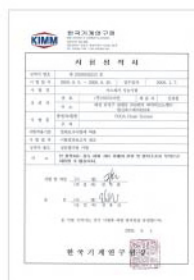
Fully Compliance
with Korean
Regulation on
Laboratory
Safety Enforced
on April 1, 2006



What is TOGA Clean System?

TOGA Clean System is a necessary laboratory equipment as it supplies clean and pleasant laboratory environments 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



1. By Hanbat National University
2. Korea Institute of Machinery & Materials

Removable harmful/toxic gases and materials

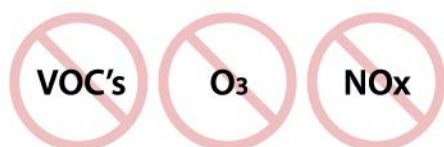
- **Carcinogens** : Benzene, Toluene, Carbon tetrachloride, Formaldehyde, Trichloroethylene and etc.
- **VOC's** : Xylene, Methanol, Ethanol, and etc.
- **Toxic Gases** : NH₃, HCl, H₂S, HC, HF, Cl₂, SO_x, NO_x and etc
- **Bacteria, Molds, Ticks, Fine Dusts, Offensive Smells, Fumes and etc**



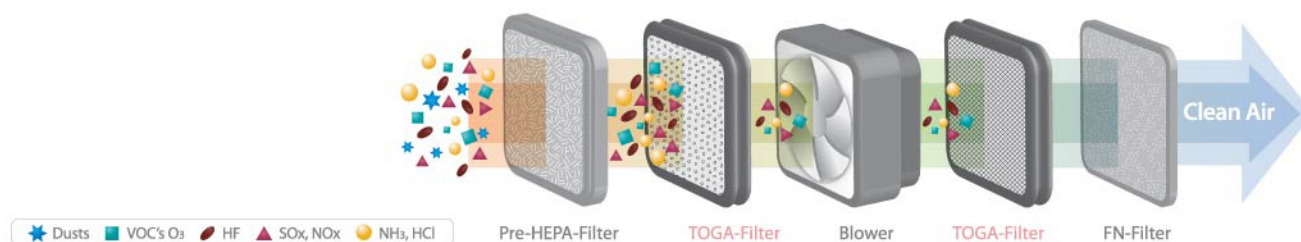
TOGA Removal Process & Filters

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 technologies
- 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

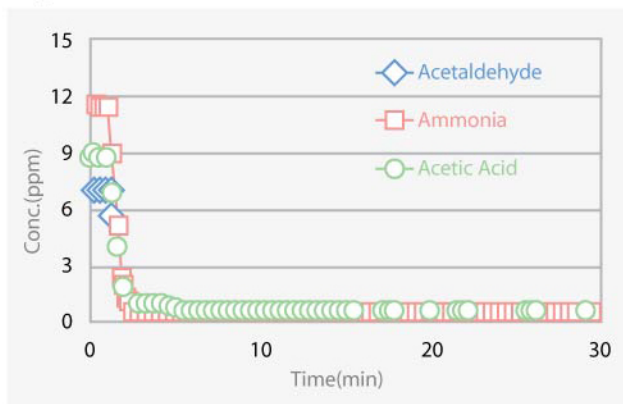
■ TOGAFIL C

- 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 0.3µm fine dusts, ticks and fumes

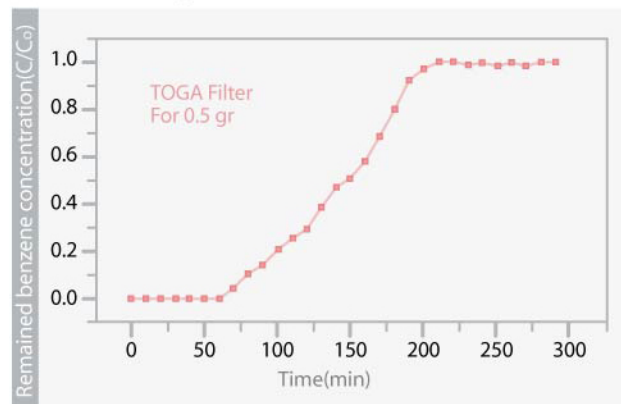
■ FN-Filter : Removes small amounts of CO₂ desorbed by neutralization of harmful gases through TOGA Filters

Representative Stink Removal



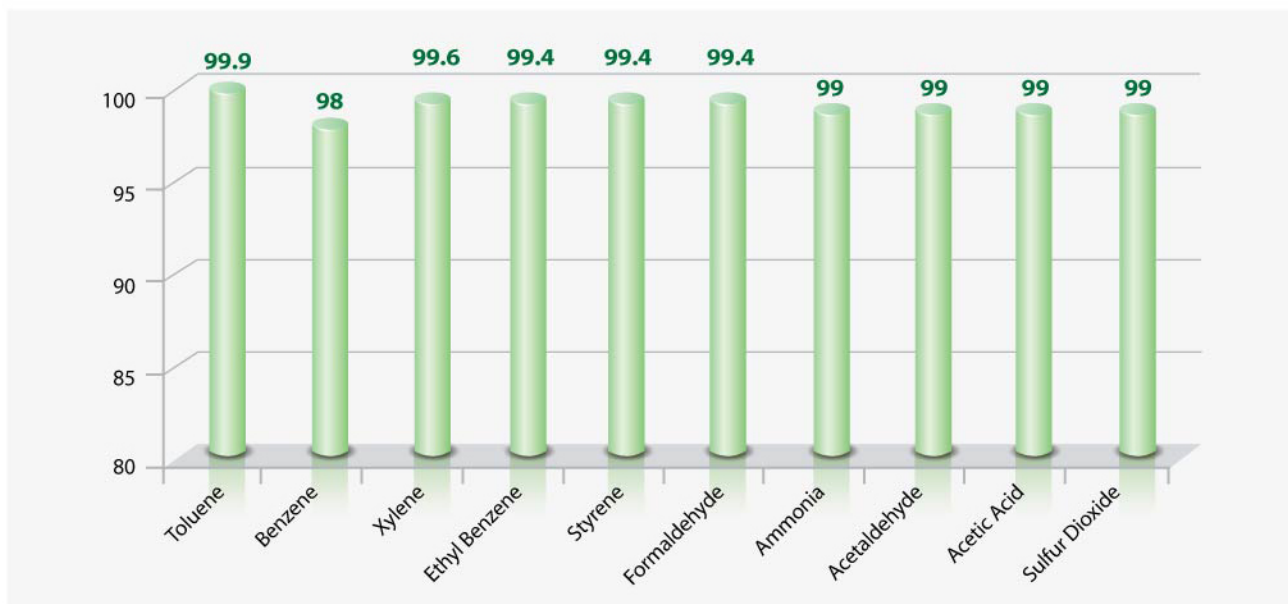
<Authorized by Korea Institute of Machinery and Metals>

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

TOGA Clean System is a necessary laboratory equipment as it supplies clean and pleasant laboratory environments 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.



TOGA Clean System MOVABLE TYPE

Features

- Easy to move by rolling casters for local cleaning and exhaustion
- Compact design with Flexible Arm rotating in a 360° arc
- TOGA filter : removal of harmful gases, VOC's, offensive smells and fumes
- Chemical motor : special coils and bearing for no chemical reaction
- Turbo blower : High efficient specially designed blower
- Pre-HEPA filter : removal of 0.3um fine dust to prolong HEPA filter greatly
- Lower Noise and soundproofing : by melamine absorption board and vibration pad
- Ductless type : easy installation and prevention of heat-loss
- Lower maintenance cost by unique and renovated developed filters

MODEL	TOGA-M01
Removal	Better than 99.7% of Harmful and Toxic Gases, VOC's, Offensive Smells and Fumes
Adsorption capability	10m ³ /min
Replacement period of filters	Around 1 Year
Power consumption	750W
Power input	100-110V / 50-60Hz, 220V / 60Hz ± 10%
Weight	87kg
Dimension	400 x 400 x 950 mm

Installation



Seoul Health & Environment Institute



Nat'l Veterinary Research & Quarantine Service



Korea Research Institute of Chemical Technology



TOGA Clean System STAND FIXED TYPE

Features

- **TOGA filter** : removal of harmful gases, VOC's, offensive smells and fumes
- **Chemical motor** : special coils and bearing for no chemical reaction
- **Turbo blower** : High-efficiency specially designed blower
- **Pre-HEPA filter** : removal of 0.3um fine dust to prolong HEPA filter greatly
- **Lower Noise and soundproofing** : by melamine absorption board and vibration pad
- **Ductless type** : easy installation and prevention of heat-loss
- Lower maintenance cost by unique and renovated developed filters

MODEL	TOGA-S01	TOGA-S02
Removal	More than 99.7% of Harmful and Toxic Gases, VOC's, Offensive Smells and Fumes	
Adsorption capability	39.6m ²	79.2m ²
Replacement period of filters	Around a Year	
Power consumption	750W	
Power input	110V/50-60Hz, 220V/60Hz ± 10%	
Weight	121kg	142kg
Dimension	450 x 400 x 1630 mm	500 x 450 x 1750 mm

Installation



Seoul FDA



Seoul Nat'l University



Hanbat Nat'l University



TOGA Clean System

COMPLETELY CLOSED REAGENT STORAGE

for Removal of Toxic Gases



Features



TOGA filter

- World first developed filters (A,B & C Type)
- Core filter to remove toxic gases
- Environment friendly anti-flammable filter



Optimized hydraulic design

- Optimized arrangement of filters and fan
- Inbuilt duct system
- Space for efficient circulation



Dehumidification of storage inside :

- By dehumidified filter



Convenient sliding shelf

- Easy take-out
- Adjustable height

■ **Completely ductless type** : No additional work to install

■ **Extruded aluminum door frame** : Light weight

■ **Polycarbonated window** : Safe and light-weight

■ **LCD monitoring** : Informs time to replace filters, inside temperature and humidity

■ **High efficient low noise fan** : < 50 dB

■ **Safety Lock System**

Removable toxic gases and materials

Carcinogens

- Benzene
- Formaldehyde
- Toluene
- Trichloroethylene

VOC's

- Xylene
- Ethanol
- Methanol

Toxic gases

- NH₃, H₂S, HC
- HF, Cl₂, SOX
- NO_x, Acids, Bases

Materials

- Bacteria & viruses
- Ticks, fine dusts
- Offensive smells
- Fumes

:: TOGA Clean System

TOGA Clean System is a necessary laboratory equipment as it supplies clean and pleasant laboratory environments 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.

TOGA Clean System

WORLD FIRST TOXIC GASES FREE REFRIGERATED REAGENT STORAGE

Complete removal of toxic gases from reagents by TOGA Filter Technology



Features

- More than 99.7% removal of toxic gases volatilized from reagent stored
- Improve removal efficiency by 2 stage TOGA filter system
- Safe and clean system for human without Ozone generation
- Control the temperature of storage

Special Features

- Temperature range** : 2 ~ 40°C
- Temperature uniformity** : < 1°C (at 10 measuring points) by patent technology
- Durability** : Using water-proof fan, increase the life time of fan
- Defroster technology** : Hot gas technology to defrost
- High thermal efficiency** : specially designed evaporator
- Horizontal air flow structure to maintain temperature uniformity
- Multi-insulation to prevent heat loss
- Sliding shelves with adjustable height

Installation



Korea Institute of Toxicology



Institute of Health & Environment



Daejeon Technopark



Specifications

MODEL		No Cooling Type		Cooling Type
		TOGA-GS01 Single	TOGA-GS02 Double	TOGA-GSR01 Single
Image				
Dimension	External	800 x 540 x 1950mm	1600 x 540 x 1950mm	880 x 790 x 1980 mm
	Internal	690 x 500 x 1580mm	1480 x 500 x 1580mm	660 x 660 x 1450 mm
No. of Reagent Storage		1 liter 120 bottles	1 liter 260 bottles	1 liter 160 bottles
Accessories		TOGA Filter A,B,C Type / Pre-Filter / FN-Filter		
Temperature Range		-		2 ~ 40°C
Period of Filter Replacement		Around a Year		
Power		110/220V, 50/60Hz 20W	110/220V, 50/60Hz 55W	110/220V, 50/60Hz 800W
Noise		< 50dB		
Unit Weight		150kg	250kg	150kg



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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.