

TOGA® Puri Printer Smart

3D Printer Toxic Gas Purifier

3D Printer Safety Booth



Custom TOGA Filter

Excellent for removing harmful fumes generated from 3D printers



Ductless Technology

Compact and with optimal air flow



IoT Function

Easy to use remote access through the web or handheld applications

3D Printer Definition and Risk Factors

3D Printer

3D printers are an indispensable technology in the era of the 4th industrial revolution, where you can make prototypes right away by omitting complicated steps from turning ideas into products. It is used in various fields such as medical, IT, art, and elementary, middle and high school education.



3D Printer Dangers

As 3D printers are used in various fields with the advantage of being able to turn ideas into reality, there are many risks due to harmful substances generated from materials when used.

Case 1 December 2021



Rare cancer occurred in 7 teachers who used 3D printers to teach in Korea.

Case 2 28 January 2017



A couple, a graduate of MIT, living in Berkeley, CA passed away from carbon monoxide poisoning while working on a 3D printer all night at their home.

Case 3 03 November 2016



A 17-year-old boy who was working on an art project in England was using a 3D printer in an unventilated space, and a flammable substance stayed in the air and exploded.

3D Printing Technology Harmful Risk Factors



Material Extrusion



Release of flammable substance



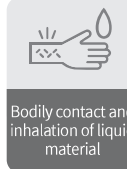
Fine particulate TVOC emission



Respiratory disease caused by combustible



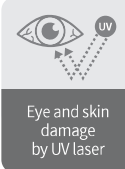
Photo Polymerization



Bodily contact and inhalation of liquid material



Risk of fire due to flammable materials



Eye and skin damage by UV laser



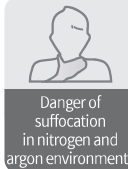
Powder Bed Fusion



Risk of fire and explosion due to dust



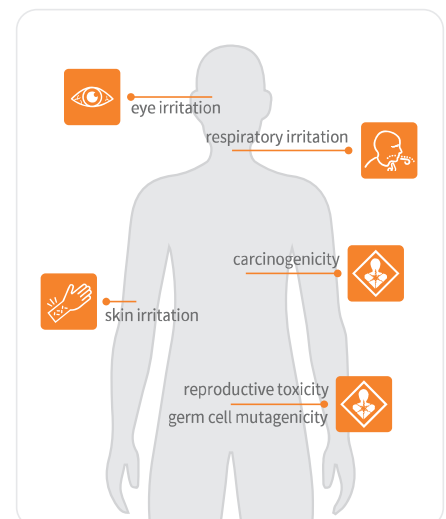
Risk of lung damage from inhalation of metal particulate



Danger of suffocation in nitrogen and argon environments

Risks to the human body by material used in the material extrusion method

Material	Target chemical	CAS No.	PEL (ppm)		Risks
			TWA	STEL	
PLA	Acrolein	107-02-8	0.1	0.3	eye, skin, respiratory irritation
	Toluene	108-88-3	50	150	reproductive toxicity
	Styrene	100-42-5	20	40	Carcinogenicity, Reproductive toxicity, Skin irritation
ABS	Acrolein	107-02-8	0.1	0.3	eye, skin, respiratory irritation
	Toluene	108-88-3	50	150	reproductive toxicity
	Ethylbenzene	100-41-4	100	125	Carcinogenicity
	Styrene	100-42-5	50	40	Carcinogenicity, Reproductive toxicity, Skin irritation
	Phenol	108-95-2	5	-	Germ cell mutagenicity, skin irritation



GT SCIEN 3D Printer Ductless Fume Extractor

What is a 3D Printer Ductless Fume Extractor

Equipment that purifies harmful gases such as ultrafine dust and volatile organic compounds generated during 3D printer use through a filter

Product Features and Functions



- UX Display**
Easy to use with intuitive GUI providing user convenience
- transparent viewing window**
It is sturdy with high-strength polycarbonate transparent window, and it is easy to view the contents of 3D printing work.
- IoT Function**
Remote access via web or app
- TOGA® Filter**
Equipped with TOGA filter providing effective removal of harmful gases.
- Aluminum Frame**
Less scratches thanks to the application of an aluminum frame, light and robust
- Turntable Shelf**
There is no risk of overturning due to a shift in the center of gravity by applying a 360° rotating turntable type shelf
- Castors with adjustable stoppers**
Easy-to-move casters (TOGA-TDS02 model)
Anti-slip rubber feet (TOGA-TDS01 model)
- Ductless Enclosure**
The sealed ductless enclosure safely removes harmful gases

Best filter and optimal structure

What is a TOGA filter? A filter for removing harmful gases developed and produced by GT SCIEN Co., Ltd., which is a mixture of three substances: physical, chemical, and neutralization.

TOGA Filter Characteristics



Longer lifespan than general filters



Effective ability to remove harmful gases



Minimize contamination due to re-desorption



No emission of ozone and nitrogen oxides due to side reactions



Provide customized filters for each application



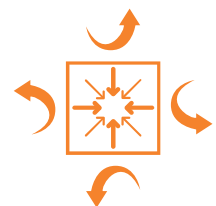
Advantages of ductless construction



Purification of harmful gases from the inside of the purifier with a ductless circulation structure with no outflow or opening of air and dust inside and outside the laboratory





Design considering space utilization and optimal air flow



Improved airtightness by using a molding door to reduce harmful gas emissions to the outside

Specifications

Model No		TOGA-TDS01	TOGA-TDS02
Product Image			
Dimension	Exterior	760 X 935 X 1,150mm	760x935x1,920mm
	Interior	650 X 760 X 800mm	ea 650 X 760 X 731mm
Shelf(Size)		1 shelf (450mm X 450mm)	2 shelves (450mm X 450mm)
Material		Aluminum Frame, PC Transparent Viewing Window	
Power		AC220V, 60Hz	
Controller		4.3in touch screen (5-step speed control, filter replacement time, display of temperature and humidity)	
Output (W)		72W	
Weight		110kg	150kg

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