ZeroSmog Guard

UNDER BENCH FUME EXTRACTION UNIT

Weller

Clean air is a worker's right.

Breathe easy in a clean environment – all day long.

technoLASA

Did you know that … soldering fumes can cause health damage?

Time to protect against soldering and other fumes

- Indoor and outdoor air pollution ranks among the top risk factors for health issues—coming right after high blood pressure and just before smoking. Many of today's dusts and fumes pose serious health risks when inhaled, and prolonged exposure can lead to severe, long-term conditions such as occupational asthma and other respiratory problems.

- Each year, thousands of workers worldwide develop occupational lung diseases and other serious health conditions, including cancer. Hand soldering environments, in particular, have highlighted the importance of air quality, personal protective equipment (PPE), and improved hygiene practices, especially since COVID-19.

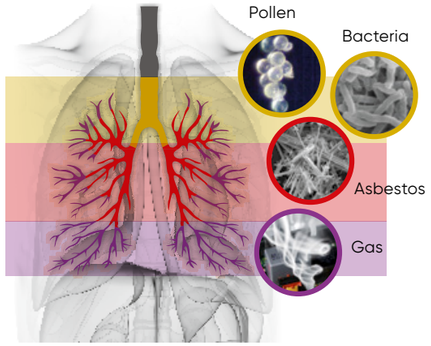
COVID-19

- EPA's Clean Air Act, Prop 65 regulations, pollution, pollens and COVID have lead to obligations to install filtration solutions in professional environments. In other countries legal regulations govern clean air in the workplace already, e.g. in the US the OHSA. These regulations require that hazardous substances are removed from the air to avoid harmful effects on people and machines.

- Lead-free soldering produces up to 250% more particles between 0.5 and 1.0 microns in diameter. In addition to particles, solder smoke can contain isocyanates, aldehydes, and other unhealthy substances.

- Smaller particles are even more hazardous, as they can penetrate deeply into the respiratory system; the smallest particles can even enter the bloodstream, significantly increasing health risks.

Effects of fine dust and gas fumes on the lungs



Clean air is everyone's responsibility

Protecting you and your employees' health

As a global leader in professional hand soldering equipment, we recognize the importance of prioritizing health and safety during hand soldering operations. Proper fume extraction systems are essential to reduce exposure to hazardous substances like lead and flux vapors, ensuring a safer environment for your employees.

Our Weller ZeroSmog fume extraction units, including the new ZeroSmog Guard under bench extractor designed for continuous, all-day use, provide optimal protection for both operators and the environment.

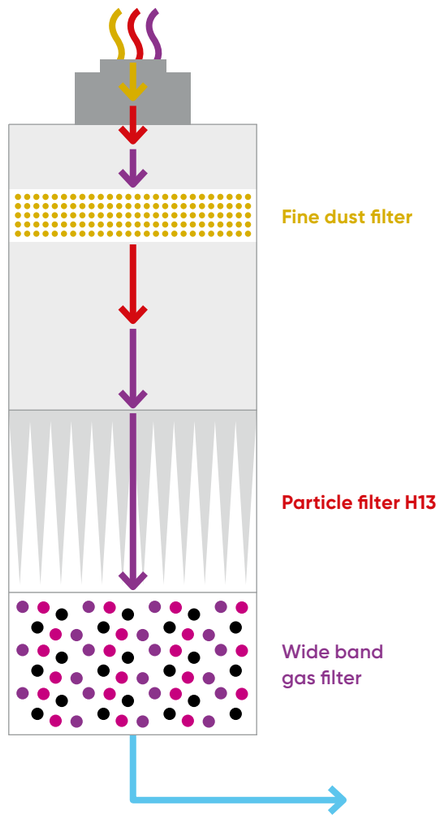
Protect your health with Weller ZeroSmog Guard

Why is fume extraction so important?

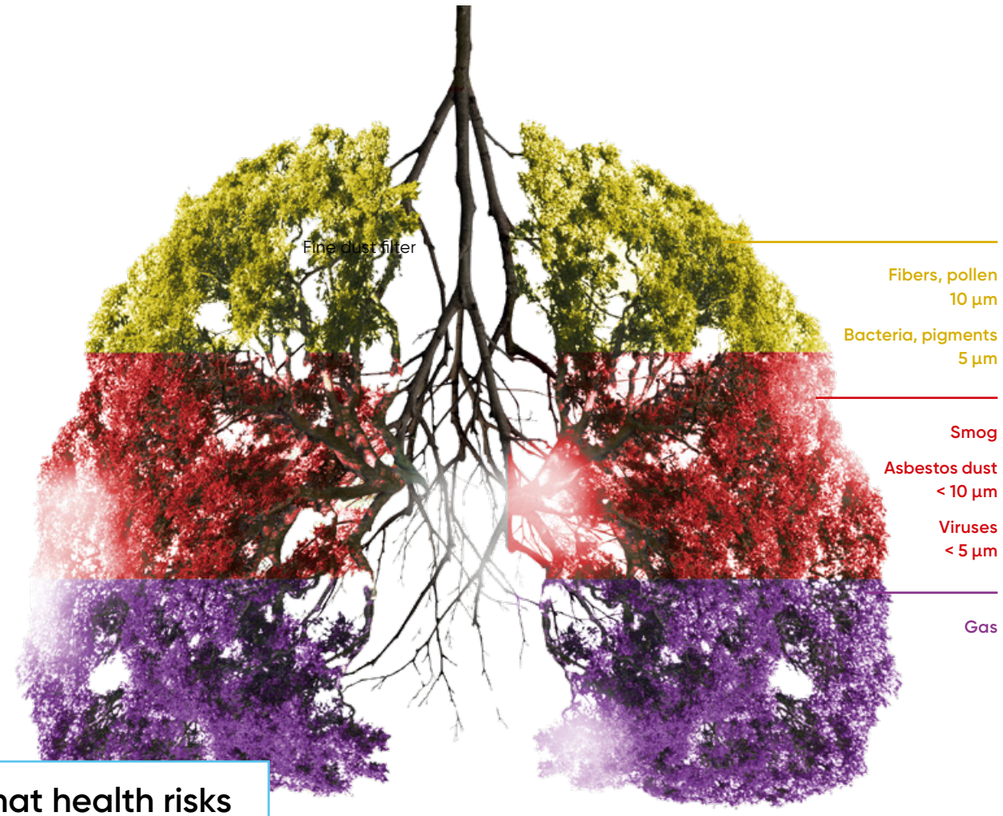
Switching to lead-free soldering is indeed a more environmentally friendly choice, as it reduces the use of harmful lead. However, lead-free soldering also presents challenges: it generates more breathable airborne particles. This increase is due to higher working temperatures and the additional flux required during the process.

Today, using the correct safety equipment is essential to remove these hazardous substances effectively. Fine particles are more dangerous than larger ones, as they can reach the alveoli in the lungs and potentially block airways. A fume extraction unit is crucial in this process, capturing particles and gases and recirculating cleaned air back into the workspace. This approach not only protects workers' health but also conserves energy and reduces HVAC costs.

- The smaller the particles, the deeper they penetrate the respiratory system, increasing health risks.
- The tiniest particles can even pass through the alveoli into the bloodstream, underscoring the importance of proper filtration.



The before/after effect on a small mesh shows the degree of pollution after 90 minutes of soldering.



What health risks can develop?

- Dermatitis
- Nosebleed
- Acne
- Headache
- Eye irritation
- Sinonasal cancer
- Sore throat
- Respiratory damage
- Occupational asthma

Clean air – 24/7 on the line

The new Weller ZeroSmog Guard under-bench fume extraction units are designed for continuous, 24/7 use in professional handsoldering on the production line.

Offering quiet, state-of-the-art filtration, they provide effective air purification and health protection for users. With 99.95% particle filtration efficiency and filtering of many different gases, these units ensure comfortable and highly effective protection in on-the-line soldering environments.

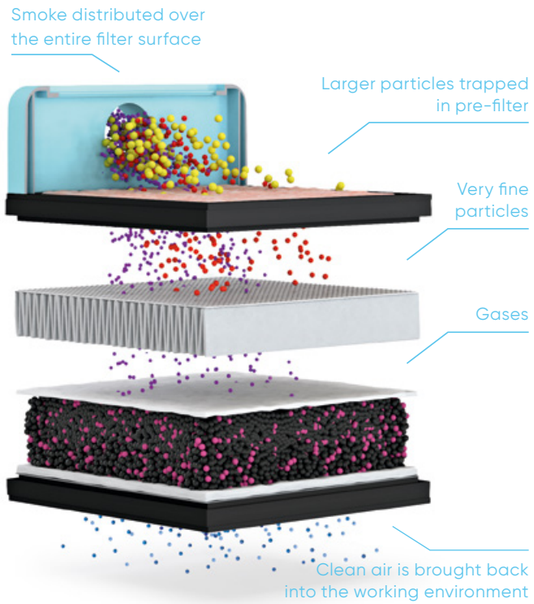
Clean air and maximum user comfort

The new ESD-safe ZeroSmog Guard fume extraction units deliver superior air quality by efficiently filtering soldering particles and gases. Equipped with a powerful blower, these units ensure cleaner air and effective odor removal.

Quiet - lowest noise level on the market – less than 50dB(A)

Easy pre-filter change

ESD-Safe



Intelligent flow principle for best possible protection
A strong suction and a powerful blower, captures the smoke more effectively. This principle ensures cleaner air and effective odor removal.

Easy and hassle-free main filter change

Ensures user convenience with fast, hassle-free replacements of both, prefilter and main filter.

Different filter types
Weller ZeroSmog Guards are used with a medium-fine dust pre-filter together with a main filter consisting of a particle filter HEPA H13 and a wide-band gas filter. A pure gas filter option is also available to purchase

Clean air series: 3 ZeroSmog Guard units

Find your perfect ZeroSmog Guard fume extraction unit

	ZeroSmog Guard Light	ZeroSmog Guard	ZeroSmog Guard 2
Features			
Users	1	1	2
Noise Level dB(A)	< 50	< 50	< 55
In-situ easy filter change	●	●	●
Easy reach switch	●	●	●
Filter Status Indication (Light Bar)	–	●	●
Pre-filter ePM1-75%	●	●	●
Particle HEPA H13	●	●	●
Gas Filtration media	Activated Carbon	Activated Carbon & $KMnO_4$	Activated Carbon & $KMnO_4$
Communication with soldering stations	–	WT, WX, WXsmart	WT, WX, WXsmart
Adjustable suction	–	●	●
Remote switch	–	○	○
Compatible Extraction Hoses Easy Click 60	○	○	○

● included ○ optional – not available

ZeroSmog Guard Light
Entry Level Single User Unit.

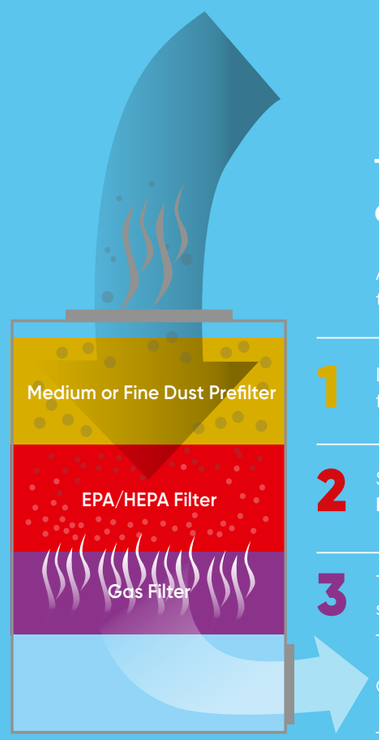
ZeroSmog Guard
Single User Unit

ZeroSmog Guard 2
Dual User Unit

Clean air makes it easier to breathe

The three stage filter system is made for removing small particles, fumes and gases in different working processes:

- The hazardous smoke is efficiently captured by the nozzle and absorbed into the filter.
- Bigger particles get caught in the pre-filter and smaller particles get caught in the HEPA (High Efficiency Particulate Air) filter.
- A wide band gas filter removes fumes and adhesives.



The most effective systems offer a 3-stage filter process

After hazardous substances are efficiently captured by the nozzle and delivered into the filter system:

1 Larger particles become trapped in the medium or fine dust **pre-filter.**

2 Smaller particles become trapped in the **HEPA particle filter.**

3 The wide band **gas filter** removes adhesive and solvent fumes.

Clean air is recirculated back into the workplace.

1. Medium / fine dust pre-filter

For standard applications where larger particles are removed by the ePM1-75% class pre-filter

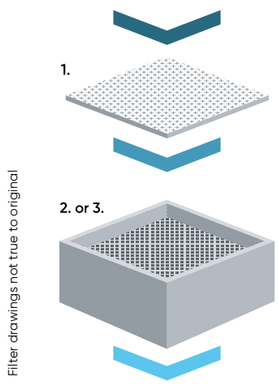
2. Main filters

Consisting of a particle filter H13 with deposition performance according EN 1822:2009
>99,955 % in MPPS (particles 0,16 µm)
>99,994 % particles 0,3 µm and a wide band gas filter for cleaning harmful fumes and vapours.

The Weller wide-band gas filter consists of 50 % active carbon and 50 % potassium permanganate ($KMnO_4$). Harmful gases with a high molecular weight are cleaned by the active carbon. $KMnO_4$ is suitable for absorbing gases of lower molecular weight. Because of its composition, $KMnO_4$ is able to convert a large number of chemical pollutants (e.g. formaldehyde) by means of molecular modification into non-polluting gases.

3. Adhesives filter (option)

The gas filter is used for extracting adhesive fumes and solvents. Experience has shown that filtering suspended particles is not so vital in this respect. The gas filter is filled with 50 % active carbon and 50 % $KMnO_4$.



Filter classification

Pre-filter Class according to ISO 16890

Filter Group	Recommended Application
ePM 1-75%	For applications with high flux or dust content

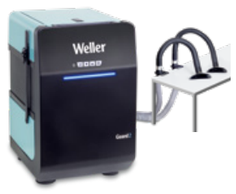
Filter Class according to EN 1822:2019

Group	Filter Class	Integral value	
		Degree of separation	Transmittance degree
EPA	E10	85 %	15 %
	E11	95 %	5 %
	E12	99,5 %	0,5 %
HEPA	**H13**	**99,95 %**	**0,05 %**

Technical specifications

Protect your health with Weller ZeroSmog Guard

FUME EXTRACTION UNIT	ZeroSmog Guard Light	ZeroSmog Guard	ZeroSmog Guard 2
Order No.	FT91020699	FT91021699	FT91022699
Dimensions (mm) L x W x H	270 x 336 x 435	270 x 336 x 435	270 x 336 x 435
(inch) L x W x H	10.63 x 13.23 x 17.13	10.63 x 13.23 x 17.13	10.63 x 13.23 x 17.13
Weight approx. (kg)	9,5	9,5	9,5
Mains supply voltage (V | Hz)	230/50	230/50	230/50
Operating sound level at 1 m dB(A)	< 50	< 50	< 55
Power Consumption (W)	74	74	142
Max. Vacuum (Pa/V)	2700	2700	2250
Max. Quantity supplied (m^3/h)	100	100	200
Combined Filter	Standard Filter Set Zero Smog Guard Light FT91000048 Wideband Gas Filter Set ZeroSmog Guard FT91000049 Adhesives Filter SetZeroSmog Guard FT91000051		
Scope of supply	1 x ZeroSmog Guard Light 1 x Mainfilter (HEPA H13 and Activated Carbon) 5 x Prefilters	1 x ZeroSmog Guard 1 x Mainfilter (HEPA H13 and Activated Carbon + Potassium Permangenate) 5 x Prefilters	1 x ZeroSmog Guard 2 1 x Mainfilter (HEPA H13 and Activated Carbon + Potassium Permangenate) 5 x Prefilters



BUNDLES	ZeroSmog Guard Light Kit 1 ALFA	ZeroSmog Guard Kit 1 ALFA	ZeroSmog Guard 2 Kit 2
Order No.	FT91024699	FT91025699	FT91026699
Description	Single User Filtration Unit with Hose and ALFA Nozzle	Single User Filtration Unit with Hose and ALFA Nozzle	Dual User Filtration Unit with Hoses, Desk Mount shutoff valve and ALFA Nozzles
Scope of supply	1 x ZeroSmog Guard Light Single User 1 x Mainfilter (HEPA H13 and Activated Carbon) 5 x Prefilters 1 x 0F15 Hose 1 x ALFA nozzle 1 x Desk clamp	1 x ZeroSmog Guard Single User 1 x Mainfilter (HEPA H13 and Activated Carbon + Potassium Permangenate) 5 x Prefilters 1 x 0F15 Hose 1 x ALFA nozzle 1 x Desk clamp	1 x ZeroSmog Guard 2 Dual User 1 x Mainfilter (HEPA H13 and Activated Carbon + Potassium Permangenate) 5 x Prefilters 2 x 0F10 Hose 2 x ALFA nozzle 2 x 3m Flexible Hose 2 x Desk mounted shut-off valves

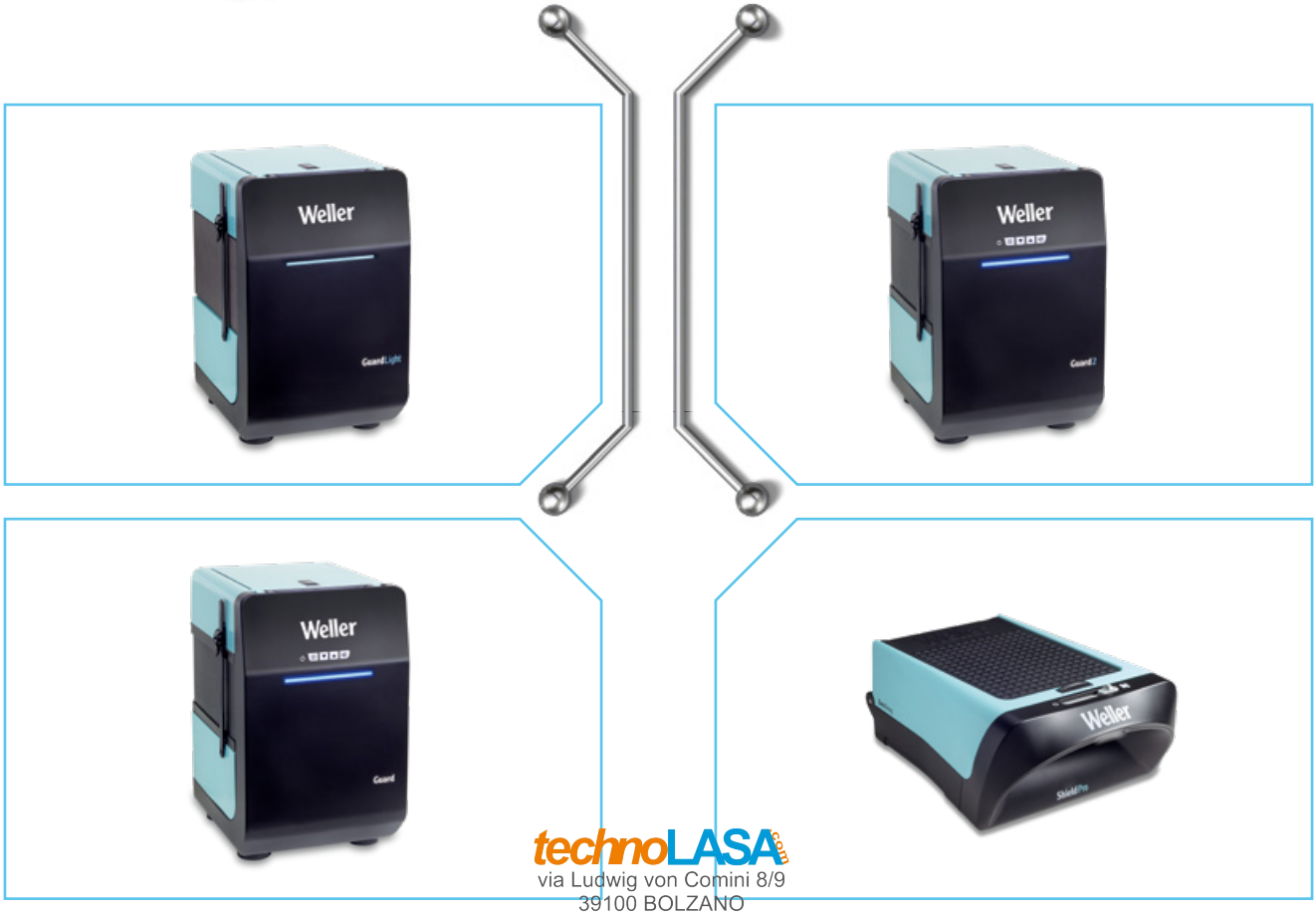
Clean air is pure health protection

Order No.	
FT91000048	Standard Filter Set ZeroSmog Guard Kit
FT91000049	Wide-band Gas Filter Set ZeroSmog Guard
FT91000051	Adhesives Filter ZeroSmog Guard
FT91000055	Remote ON/OFF Switch ZeroSmog Guard

#PowerfulTogether

Weller
#PowerfulTogether

Weller Soldering Stations and ZeroSmog Guard fume extraction units are made for the safest way to solder.



technoLASA.com
via Ludwig von Comini 8/9
39100 BOLZANO
Tel +39 0471 305400
email: sales@technolasa.com

Germany

Weller Tools GmbH
Carl-Benz-Straße 2
74354 Besigheim

Tel: +49 (0) 7143 580-0
Fax: +49 (0) 7143 580-108

USA

Apex Tool Group, LLC
1000 Lufkin Road
Apex, NC 27539 USA

Tel: +1 (919) 387 0099
Fax: +1 (919) 387 2614

China

Apex Tool Group
Room 302A, NO 177 Bibo Road
Shanghai 201203

Tel: +86 (21) 60880288
Fax: +86 (21) 60880289

© 2024, Apex Tool Group LLC | T005 57 543 01 | Brochure Weller ZeroSmog Guard EN