



WellerFT - world leader in emission control at work

For more than 50 years Weller Tools GmbH, head office: Besigheim (Germany), has been synonymous with pioneering solutions in soldering technology and extraction and filtering of the produced vapours.

Under the umbrella of the American Apex Tool Group with around 7,600 employees in more than 30 countries, WellerFT has at its disposal the know-how, the production capacities and the logistics of a global player - with the advantage of guaranteed long-term spare parts availability and just-in-time deliveries all round the globe.

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ffi LASERLINE Series

WellerFT
FILTER SYSTEMS

smartTec
smart technology products and solutions

www.smarttec.dk



**Mobile fume extraction filter systems
for laser applications**

Weller®

Intelligent solution - clever fume extraction filter systems that save costs

The equipment of WellerFT Laserline is designed for highest efficiency - in every respect and in all application areas. Compared with conventional systems, their innovative design produces advantages which pay off in the long term, i.e. through low operating and maintenance costs.

Separate filters, less wear and tear

Up to four filters with different permeability ensure that coarse particles ($> 10 \mu\text{m}$) are already eliminated in the fine particulate filter. This protects the capacity of the following HEPA filters and ensures that they function reliably for a much longer period of time. Spark trap, pre-filters and compact filters can be individually exchanged. The volume of every individual filter can therefore be used to the full without impairing the effect of the unit.

Intelligent control systems for maximum performance

The performance of multiple-stage filtration systems tends to drop off even if only one filter is polluted. To avoid this efficiency loss WellerFT applies intelligent control technology. It indicates pending filter changes in advance by acoustic and visual signals, and simultaneously increases the power output of the low-maintenance turbine in order to ensure a constant extraction volume. This ensures absolute 100 percent efficiency of WellerFT tools throughout work operations.

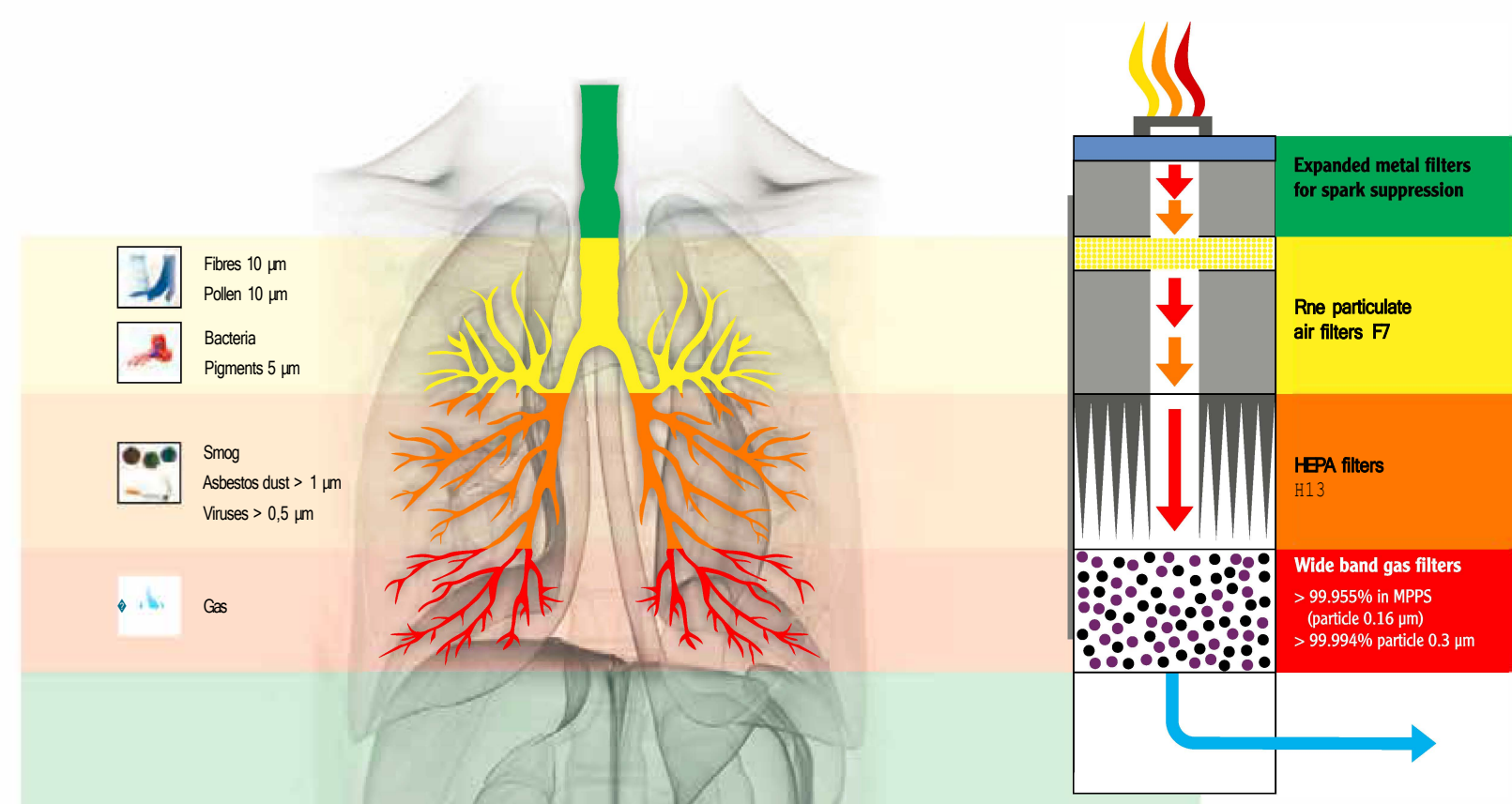
Hazardous substances in laser processing

Laser processing of metals and plastics produces E or A fraction dusts which contain, for example, heavy metals that accumulate in the human body or may lead to respiratory diseases.

The Committee for Hazardous Substances (AGS Germany) reduced the new dust emission limit for A fraction dusts on 01.04.2014 by 3.0 to 1.25 mg/m^3 in relation to an average density of 2.5 g/cm^3 .

Harmful gases and vapours, for example nickel oxide, chromium (IV) compounds, formaldehyde, hydrogen cyanide or phenol, also frequently occur and have a carcinogenic effect. Organic materials such as PVC are pyrolysed, thus releasing highly toxic substances such as dioxins or hydrogen chloride.

In accordance with legal regulations and defined occupational limit values, as well as the technical regulations for hazardous substances (TRGS 900), harmful substances must be fully collected and extracted at the point of origin. It is important here to get as close as possible to the point of origin and use the correct collection element. WellerFT offers extensive accessories for this purpose.

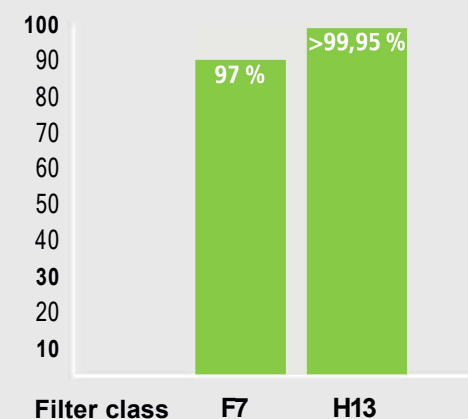


Wide band gas filters

In order to clean harmful gases and vapours, WellerFT supplies wide band gas filters consisting of 50 % activated carbon and 50 % chemisorb (potassium permanganate). This gas filter mixture offers laser users a much wider application area than filters with 100 % activated carbon filling. Due to its composition, chemisorb is only able to neutralise hazardous substances such as formaldehyde, hydrogen cyanide and phenol by means of molecular modification.

WellerFT also supplies special filters on request.

Average efficiency E_m % compared with the particle size $0.12 \mu\text{m}$

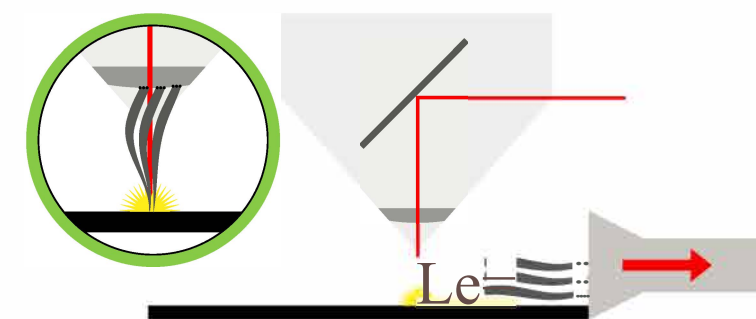


Protection against emissions - right at the source

Generation of fine dust cannot be prevented when using lasers in all application areas. However, the emissions thus produced should not simply escape into the ambient air. This is firstly due to their health-endangering properties. They can also be deposited as dirt on sensitive components in laser systems and seriously impair their function and service life.

WellerFT Laserline filtration systems were specially developed from high-quality components to extract harmful emissions where they occur - directly on the laser head. They therefore protect the laser lens against damage and prevent the distribution of harmful substances in the ambient air.

The innovative filtration system separates the finest particles and harmful gases in four stages and returns the totally cleaned air back into the surroundings. An important contribution towards compliance with directives for room air quality at work from which employees and valuable technology profit equally.



Purposeful protection for technology: direct extraction at the source

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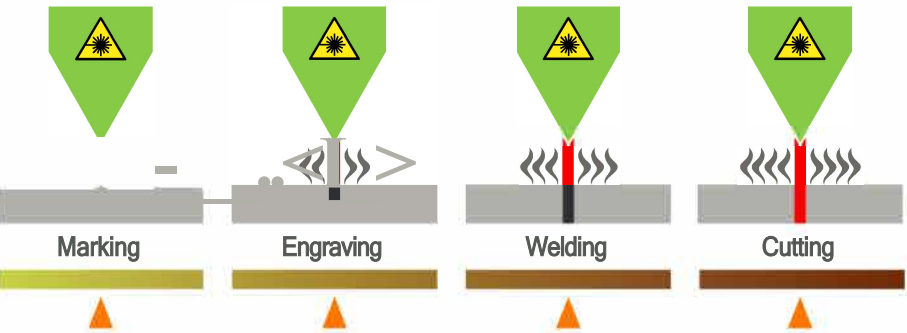
arguments - for continuous sales success

WellerFT Laserline offers more efficiency in emission control thanks to innovative technology:
The advantages are obvious:

- Automatic constant flow control (CFC)
Effectiveness testing via a USB interface (only with V versions)
- Low energy consumption
- Low noise level
- Interfaces via USB, RS 232 and optional relay outputs
- Low-maintenance, brushless turbines
- Acoustic and visual filter change alarm
- Individually upgradable with special filters
- Up to three separate filter components - thus low operating costs
- Thermally recyclable main filter housing

Unbelievably quiet - astonishingly multi-functional

Weller FT offers with its Laserline series mobile fume extractions for all kinds of laser applications.
All systems are retrofitable with special filters for cleanroom or for the use of inkjet printers. Weller FT Laserline filter systems have one more crucial advantages. They are the quietest in the world.



Technical data	LL 150	LL200V	LL400V
Max. vacuum (turbine), Pa	2000	2700	3000
Max. delivery rate (turbine) m³/h (CFM)	140 (82,3)	230 (135)	645 (380)
Prefilter class (size, m²)	F7 (0,24)	F7 (0,5 - 2,5)	F7 (2,5 -10)
Compact filter	Particle filter H13 + Wide band gas filter (50 % Activated carbon+ 50 % Chemisorb)	article filter H13 +Wideband gas filter (50 % Activated carbon+ 50 % Chemisorb)	article filter H13 + Wide band gas filter (50 % Activated carbon+ 50 % Chemisorb)
HEPA filter separation level, MPPS %	> 99,95	> 99,95	> 99,95
Noise level at a distance of 1 metre, dB(A)	< 50	< 52	< 53
Power,W	100	200	360
Voltage, V/Hz	110-240 V, 50 Hz / 60 Hz	230 V, 50 Hz (120V, 60 Hz)	230V, 50 Hz (120V, 60 Hz)
Weight, kg (lb)	18 (39,7)	21 (46,3)	51 (112,4)
Dimensions L x B x H, mm (in)	340 x 340 x 680 (13,40 x 13,40 x 26,80)	320 x 320 x 700 (12,60 x 12,60 x 27,60)	441 x 441 x 1020 (17,40 x 17,40 x 40,20)
Interface	TIL	RS 232	RS 232

Order number 120-240 Volt	FT-L15		
Order number 230 Volt		FT91001699	FT91002699
Order number 120 Volt		FT91001299	FT91002299
Order number incl. Easy Click connection (for a maximum of 4 workstations)		FT91001670	FT91002670

All filter systems with:

- acoustic and visual filter change alarm
- maintenance-free EC turbine
- RS 232 interface



LL 150

- Extraction unit for small particle quantities
- Effective and economical filtration system for different laser applications with a 3-stage filter
- Power supply 115 - 240V



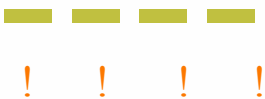
LL 200

- Extraction unit for small to medium particle quantities
- Compact filtration system for laser emissions with 4 filter stages
- Constant flow control for even extraction power



LL 400V

- Extraction unit for large particle quantities
- Powerful filtration system for laser emissions with 4 filter stages and an integrated expanded metal filter
- Constant flow control for even extraction power
- Optional extra: interface connector for potential-free contacts



Replacement filters and accessories - everything from a single source

Unique on the market

WellerFf is the only supplier on the market to offer filtration systems, filters and accessories from its own production.

Your advantages:

- WellerFT can react quickly to changing market requirements from technological aspects, i.e. you benefit from the latest products.
- WellerFT can address individual customer requirements in a very flexible manner. You obtain a solution that is tailored precisely to your needs.
- WellerFT products are perfectly matched. This means that no rework or adjustments are necessary. This saves time and money.

Order no.	Description	Device type
Expanded metal filter for spark suppression		
FT91000001	Expanded metal filter	LL 200V
FT91000002	Expanded metal filter	LL 400V



Fine particulate filter F7		
150-4000	Fine particulate filter F7, 2 pc.	LL 150
FT91000007	Pocket filter F7, 0,5 m²	LL 200V
FT91000011	Prefilter F7, 2,5 m²	LL 200V
FT91000006	Pocket filter F7, 2,0 m²	LL 400V
FT91000009	Prefilter F7, 10 m²	LL 400V
250-9000	Pocket filter F7, 0,5 m², 2 pc.	LL 250
450-4002	Pocket filter F7, 2,5 m², 2 pc.	LL450



Fleece filter for sticky substances		
FT91000012	Pocket filter	LL 400V



Compact filter		
Constists of particle filter H13, wide band gas filter (50% activated carbon, 50% chemisorb)		
150-2012-L	Compact filter	LL 150
FT91000010	Compact filter	LL 200V
FT91000008	Compact filter	LL400V
200-2012-L	Compact filter 2 pc.	LL 250
450-2012-L	Compact filter 4 pc.	LL450



Order no.	Description	Device type
Remote controls		
T0058735909	Remote control, can be connected to LL 200V and LL400V. Switching the device on and off, speed setting, Filter level indicator	
T0053119199	Connection cable for remote control	
700-3057	Remote control for LL 150	
Easy Click 60 extraction arms		
T0053658099	Easy Click 60 extraction arm, flexible, Ø 32 mm, 45°, aluminium nozzle sloped 1 metre in length	
3-0F05	Easy Click 60 extraction arm, flexible, Ø 32 mm, 0,5 metre in length	
3-0F07	Easy Click 60 extraction arm, flexible, Ø 32 mm, 0,7 metre in length	
3-0F15	Easy Click 60 extraction arm, flexible, Ø 32 mm, 1,5 metre in length	
OF05	Easy Click 60 extraction arm, flexible, Ø 60 mm, 0,5 metre in length	
OF07	Easy Click 60 extraction arm, flexible, Ø 60 mm, 0,7 metre in length	
OFIO	Easy Click 60 extraction arm, flexible, Ø 60 mm, 1 metre in length	
Ff-NL	Ff-NL sloped nozzle Easy Click 60 aluminium nozzle sloped Ø 60 mm, length 130 mm	
Ff-N	Ff-N sloped nozzle Easy Click 60 aluminium nozzle sloped nozzle Ø 50 mm, length 130 mm	
700-3041-ESD	Easy Click 60 extraction hose Ø 60 mm, 2 metre in length	
700-3051-ESD	Easy Click 60 extraction hose Ø 60 mm, 3 metre in length	
700-3053-ESD	Easy Click 60 extraction hose Ø 60 mm, 5 metre in length	
T0058735327	Easy Click 60 extraction hose, sold by the metre	
Hose connections		
Ff91000003	Hose connections 50 mm	LL 400V
Ff91000004	Hose connections 75 mm	LL 400V
Ff91000005	Hose connections 100 mm	LL 400V
T0058762767	Easy Click 60 hose connection	LL 200V, LL 400V
Housing feedthrough		
Ff91000016	Easy Click 60 Housing feedthrough for laser cell	
Ff91000017	Easy Click 60 90° Housing feedthrough for laser cell	
Ff91000018	Easy Click 60 50 mm Housing feedthrough for laser cell	
Ff91000013	Add-on for preliminary filter housing	LL 400V

Further accessories available on request.