FUMEX CFE

FUMEX CFE and CFE W3 are dust filters for large airflows.

FUMEX CFE och CFE W3 are suitable for filtration of dry particles, such as dust and welding fumes, in the mechanical industry.

For airflows from 1,000 m³/h to 12,000 m³/h. For larger airflows, multiple modules can be installed in parallel.

Two versions of the filter are available:

Standard filter cartridge designed for welding fumes from steel with a chrome/nickel content of less than 30%

W3 Certified filter for filtration of welding fumes from stainless steel.

On-demand cleaning.

The filter is supplied fully assembled from the factory.

W3 Filter replacement can take place without any contact with the dirty filter.

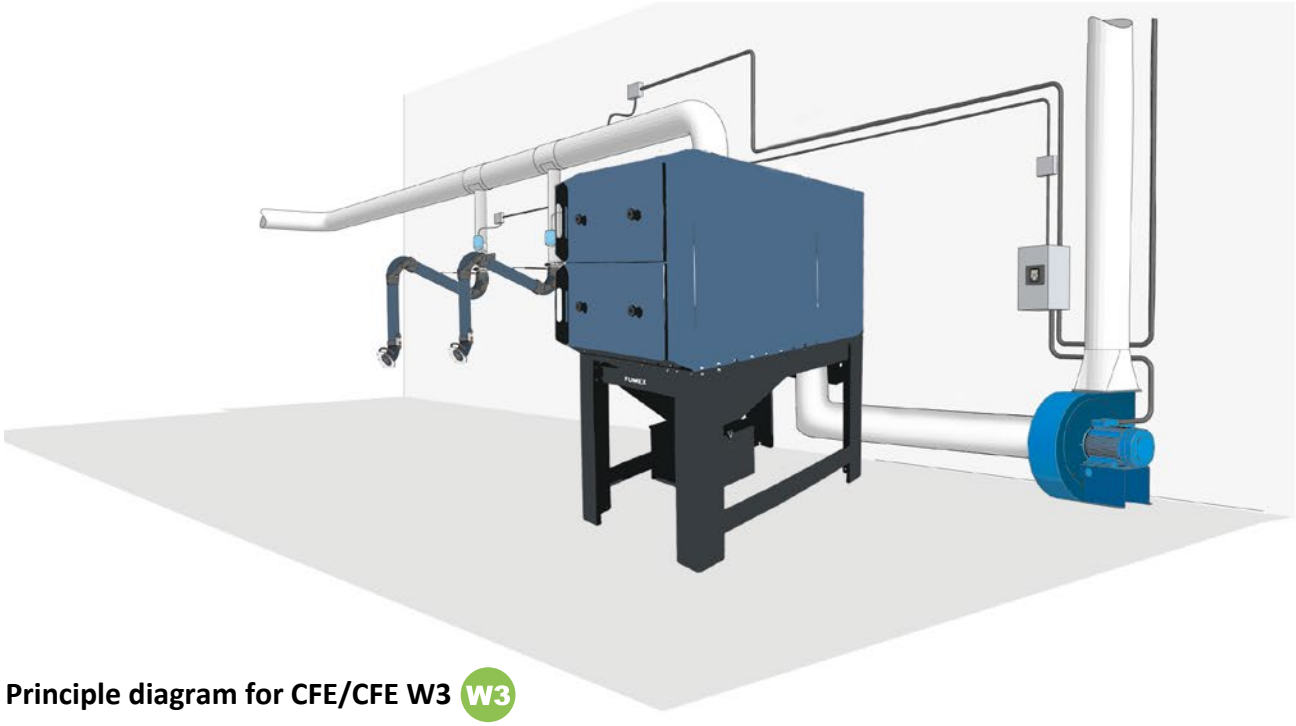
Monitoring system via a mobile app on your smartphone is available as an option.

To meet the requirements for installation in different environments, CFE is available in two versions of surface treatment:

- **CFEI** - Low risk for corrosion, for indoor installation, non-heated air, varying temperature.
- **CFEO** - High risk for corrosion, for outdoor installation, polluted city- and coastal areas.

The Fumex range also includes fans, local extraction, accessories, control units and filters

FILTER
Pure advantage



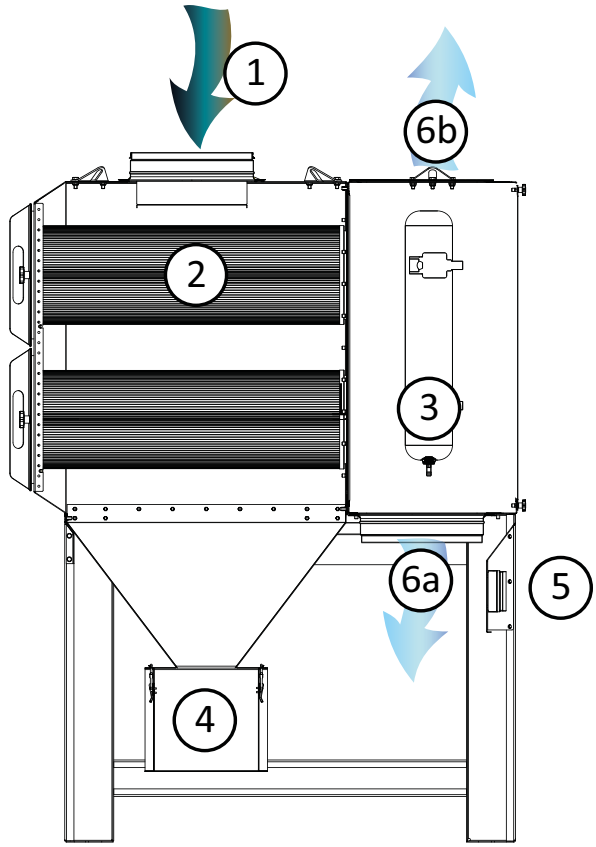
Principle diagram for CFE/CFE W3 W3

Fumex PRX local extractors are used to evacuate the welding fumes. To conserve energy and extend the life time of the filter, the extractors are equipped with automatic dampers that close when the extractors are not in use.

Particles are filtered via Fumex CFE/CFE W3 type filter in accordance with standard EN ISO 15012-1, W2 or W3.

The speed of Fumex FB type fan is controlled via a ST 300 pressure sensor and an SFC frequency converter.

The filter can be equipped with a monitoring system that connects to an app on your smartphone to monitor the function of the filter.



How the cartridge filter works

1. The contaminated air comes in from above. The dust moves naturally through the filter.
2. The filter cartridges separate the dust with a high degree of separation efficiency. The horizontal position of the filter cartridge facilitates accessibility during service work. Filter replacement can take place without any contact with the dirty filter.
3. A pressure-controlled diaphragm valve provides blasts of compressed air to dislodge the dust that collect on the cartridge.
4. Dust that is dislodged from the filter cartridges is collected in the straining compartment and falls down into the dust collector.
5. Control and compressed air components are positioned externally for easy access and are well recessed to protect against mechanical impact.
6. The filtered air passes through the outlet.
   The outlet connection is downwards facing as standard (6a), but can also be supplied with the connection facing upwards (6b). The outlet position can also be altered during installation.

Automatic system with on-demand cleaning

On-demand cleaning, controlled by the pressure drop across the filter cartridges. The pressure drop starts a cyclical cleaning of the cartridges when the set value is reached.

Online cleaning. To ensure stable airflow, the filter is cleaned during operation (so-called online cleaning). When the fan stops for breaks or at the end of the working day, the filter is cleaned (so-called offline cleaning) to allow all lightweight particles to fall into the dust collector.

Control unit. The status of the cartridges can be checked by reading the digital control unit on the filter or by installing the external manometer, CFE M. For remote monitoring on your smartphone or PC, a separate device is available as an accessory.

W3-certified filters (CFE W3) must always be monitored using a CFE BW3 warning light placed in a highly visible location indoors.

Programmable control unit, for programming e.g. start-up pressure for cleaning and number of cleaning cycles after the system has stopped.

Isolating switch, for electrical connection of the control unit.

Compressed air valve, for setting desired cleaning pressure and fitted with locking shut-off valve. The evacuation valve for the compressed air tank is separate.

The controls are already connected, only compressed air and single phase (230 V) electrical connection are required.

Certificate for W3

According to standard EN ISO 15012-1

Evacuating the harmful welding fumes directly at the source, before they spread into the premises, is the most effective way of creating a healthy and safe working environment.

The level of harmful and carcinogenic particles in the welding fumes is rising at the same rate as the increase in the percentage of chrome/nickel(Cr Ni) alloys in the welding wire. This means that systems for welding fume extraction and filtration are subject to more stringent requirements.

The international standard EN ISO 15012-1 specifies the requirements for filtering welding fume particles in the following categories.

W3 Filtration of welding fumes from steel with a chrome/nickel (Cr Ni) content equal to or greater than 30% must have certified separation of more than 99%.

W2 Filtration of welding fumes from steel with a chrome/nickel (Cr Ni) content lower than 30% must have separation of more than 98%.

Zertifikat
Nr. **IFA 2205006**
vom 10.05.2022

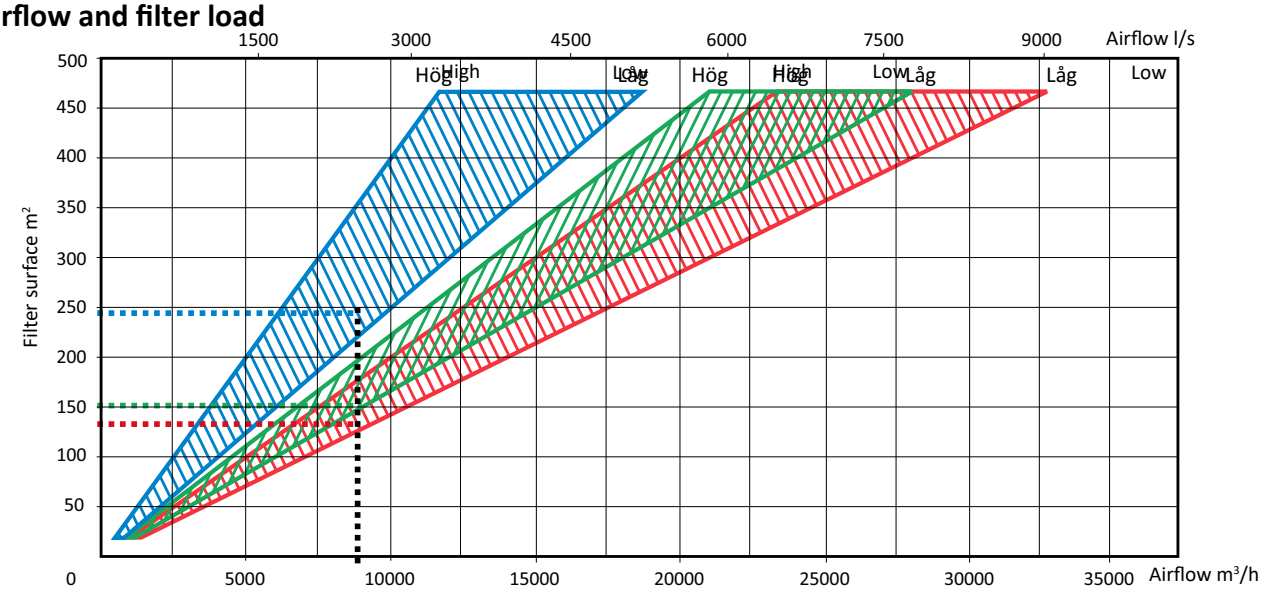
IFA
Institut für Arbeitsschutz der
Deutschen Gesetzlichen Unfallversicherung
Prüf- und Zertifizierungsstelle im DGUV Test

DGUV Test - Zertifikat

Name und Anschrift des Zertifikatsinhabers: (Auftraggeber)	FUMEX AB Verkstadsvägen 2 93161 Skellefteå SCHWEDEN
Produktbezeichnung:	**stationäre Schweißrauchabsauggeräte**
Typ:	CFE 2 CFE 4 CFE 6 CFE 8

Design values

Airflow and filter load



The airflow for each filter is calculated on the basis of what is known about the nature of the dust particles, the amount of dust in the air and how intensively the system is being used. Based on experience, the following filter loads are recommended.

Fumes from plasma, gas and laser cutting
Filter load 25–40 m³/h/m²

Fumes from welding (production).
Dust from fine dust and powder
Filter load 50–60 m³/h/m²

Fumes from welding (training, repair work).
Dust from metalwork and stonework
Filter load 50–80 m³/h/m²

The pressure drop of the filter in clean cartridges is 250–500 Pa depending on the volume of air.
Recommended pressure drop at which the filter should be replaced: 1500 Pa
Maximum pressure drop over the cartridges: 1800 Pa

Filter cartridges

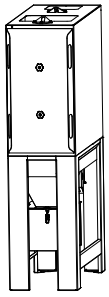
Standard filter CFS 195/CFS 195W3 is recommended in normal circumstances.
For demanding applications (gas and plasma cutting), the high-quality filter CF 168PH is recommended.

	CFS 195	CFS 195P	CF 168PH
Description	Standard filter. Used for welding fumes and for dust from stone and metal.	Standard filter. Used for welding fumes and for dust from stone and metal. The robust polyester fiber provides longer service life. Particularly suitable for frequent cleaning and long operating hours.	A high-quality filter for demanding applications, e.g. gas and plasma cutting. Also suitable for demanding dust filtration with high concentrations of dust.
Material:	Polyester - standard	Polyester - BICO	Polyester
Type:	Pleated filter material for optimum efficiency.	Pleated filter material for optimum efficiency.	Corrugated filter material for maximum efficiency at the lowest pressure drop.
Max temp. process air:	60°C	60°C	70°C
Filter material's degree of penetration according to EN-60335-2-69	0.06%	0.06%	0.06%
Dust class:	M(BIA)	M(BIA)	M(BIA)
Active filter area:	19.5 m²	19.5 m²	16.8 m²

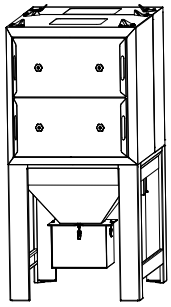
	CFS 195W3 W3	CF 211W3 W3
Description	Standard filter. Used for welding fumes and for dust from stone and metal. The PTFE membrane makes the filter suitable for slightly damp or sticky material.	A high-quality filter for demanding applications, e.g. gas and plasma cutting. Also suitable for demanding dust filtration with high concentrations of dust.
Material:	Polyester - BICO with PTFE membrane.	Polyester, coated with nanofibre.
Type:	Pleated filter material for optimum efficiency.	Corrugated filter material for maximum efficiency at the lowest pressure drop.
Max temp. process air:	60°C	60°C
Filter material's degree of penetration according to EN-60335-2-69	0.01%	0.02%
Dust class:	E 10 (EN 1822)	E 10 (EN 1822)
Active filter surface area:	19.5 m²	21.1 m²

We always recommend to use pre-coating to extend the life-time of the filter cartridges.

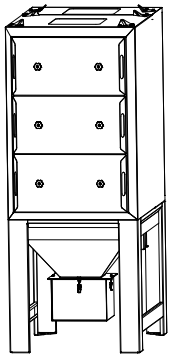
Dimensional drawing



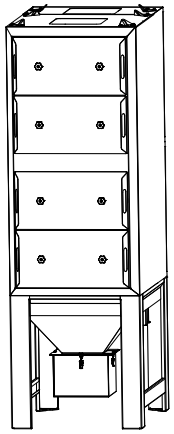
CFE 2
CFE 2W3 W3



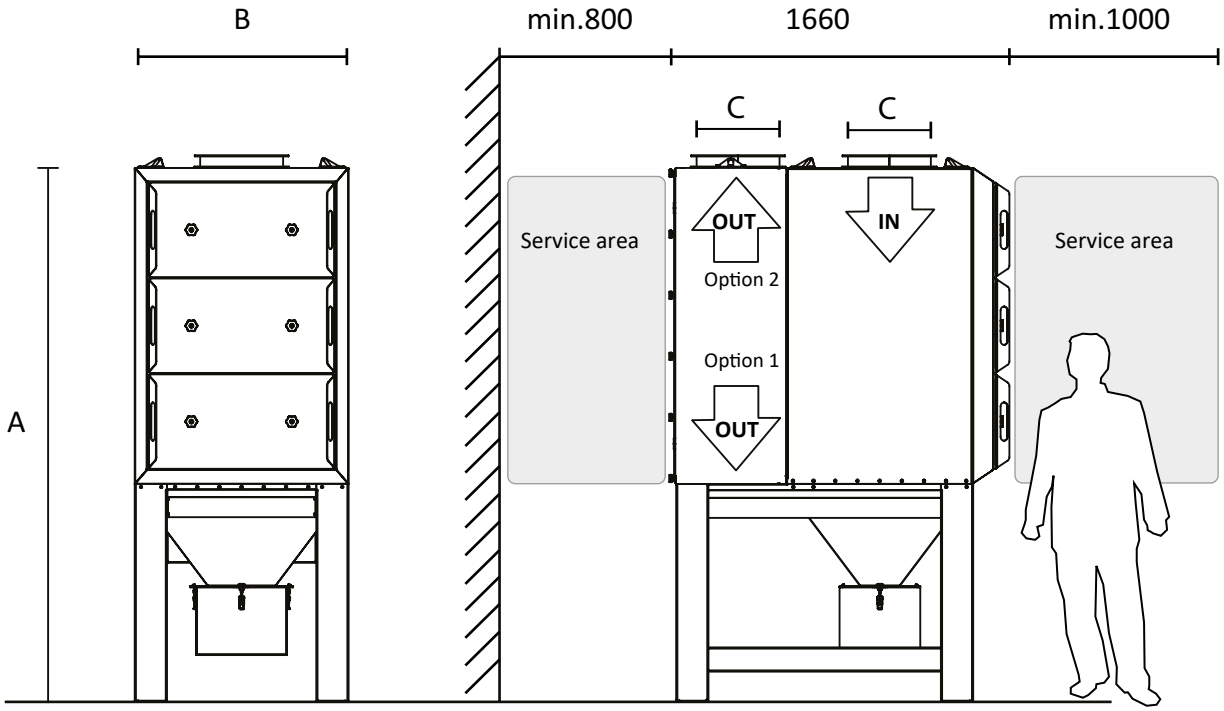
CFE 4
CFE 4W3 W3



CFE 6
CFE 6W3 W3



CFE 8
CFE 8W3 W3



Designation	Number of cartridges	A mm	B mm	C mm	Weight kg
CFE 2	2	2140	550	Ø250	270
CFE 4	4	2180	1070	Ø400	350
CFE 6	6	2650	1070	Ø400	520
CFE 8	8	3270	1070	Ø400	720

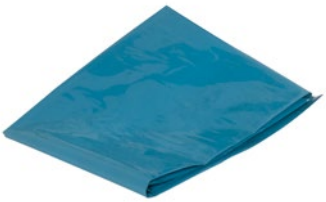
Designation	Number of cartridges	Filter area (m^2)			
		CFS 195	CF 168PH	CFS 195W3 W3	CF 211W3 W3
CFE 2	2	39	33.6	39	42.2
CFE 4	4	78	67.2	78	84.4
CFE 6	6	117	100.8	117	126.6
CFE 8	8	156	134.4	156	168.8

Accessories to CFE and CFE W3

CFE BW3
Flashing orange warning light to indicate that the filter's maximum load has been reached. Supplied as a kit containing a warning light and relay box. Position in a highly visible location indoors. Included as standard for W3 type filter. **Delivered as standard with CFEW3**

CFE RW3
Bayonet ring for contactless replacement of filter cartridges. Supplied with rubber bands for the plastic bag.

CFE PCW3
Plastic bag for contactless replacement of filter cartridges.



CFE PSW3
Plastic bag for contactless replacement of dust collector.

CF PRECOAT/S and CF PRECOAT/H
Pre-coating is recommended to extend the life-time of the filter cartridges.
CF PRECOAT/S, recomended amount is 1 kg per standard cartridge filter
CF PRECOAT/H, recomended amount is 1/6 kg per high quality cartridge filter

CFE M
Analoge pressure gauge for easy overview of filter load

CFE HS
Set of wheels for easy replacement of dust collector. Fits CFE 4, 6 and 8

CFT-400
To reduce the risk of sparks from welding or cutting reaching the filter cartridges, external spark trap CFT-400 is recommended.

To achieve the best effect, spark trap CFT-400 should be mounted in a horizontal position. The duct before the spark trap must have a straight part which is at least 10 x the duct diameter.

Recommended velocity:	8 - 25 m/s.
Pressure drop at 15m/s:	360 Pa
Weight:	7.3 kg

The spark trap is available in other sizes upon request.


FUMEX

Technical data

CFE filter

Maximum negative pressure for filter housing	5 kPa
Dust collector volume	55 l

Material

Module	Casing and frame made from powder-coated sheet steel

Compressed air

Air consumption	Min 0.24m³/min.
Max. pressure	7.0 bar
Normal working pressure	5.0 bar

Automated functions

Pulse time	0.08 s
Ambient temperature	-20 to +50°C
Voltage	110 V / 230 V ~ IN
Valve voltage	24 V ~ IN
Protection class	IP 54

Form of delivery

Filters are always delivered fully assembled.
Each module is equipped with lifting eyebolts for easy handling.

Installation

The CFE filter is designed to be assembled before the fan.
The filter must be weather-proofed with a built-in or lean-to roof.
Connection should be made to a circular, pressure-tight duct.

Air volume filter

Adjustments can be made using Fumex pressure controls or flow controls.

Compressed air

Air quality: Clean and oil-free air, free from condensation at the current working temperature.

FUMEX
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