MOBILE FILTER

# CMF 10/20/30

Cleanable mobile filter unit for industrial production

FUMEX

PURE ADVANTAGE

# CMF – a cleanable mobile filter unit for industrial production

The **FUMEX CMF** is a cleanable mobile filter unit with built-in fan and top mounted extraction arm for the cleaning of dust laden and polluted air in ventilated full-scale workshop environments. The filter unit has been developed according to ISO 21904-1:2020 for welding safety products.

## Three different models

The filter unit is available in three different models. Depending on the model you choose, the filter cartridge is cleaned with different methods:

- **CMF 10** - with manual cleaning
- **CMF 20** - with motorised cleaning
- **CMF 30** - with motorised and pneumatic cleaning

During cleaning, the dust particles that detach from the filter fall into the dust collector.

## Low flow audible alarm

When the air flow is too low, an audible alarm sounds, indicating that the filter cartridge needs to be cleaned or replaced.

## Top quality filter

The filter cartridge filters more than 99% of smoke and dust contamination from the welding of high-alloy steels, such as steel with a nickel and chromium content of 30% or higher.

## High airflow, low pressure drop

The impeller of the fan has backward-curved blades and high efficiency. It is designed to maintain a steady and high airflow, even when the filter cartridge is contaminated. Combined with the low pressure drop of the extraction arm, the CMF filter unit provides high performance.

# Ideal for the filtration of dry particles, such as fine-grained dust and from welding work.

**The Filter unit** (CMF 10/20/30) comes with a 5 metre 400V AC cable, ready to plug in. The control panel feature differs between the models, but common to all of them is that it acts as a handle when moving the filter unit, as well being a usable surface area.

**The hood** of the extraction arm is designed for maximum suction efficacy and is ideal for capturing welding fumes. A manual damper at the hood attachment point opens and closes the airflow.

**The wheels** on the CMF swivel and are lockable, making the filter unit easy to move and lock where you need it.

**Accessories** include a spark trap, silencer and HEPA filter (class H14). Other hoses for special requirements can be delivered on request.

## Efficient filter

The filter cartridge with a 14m$^2$ filter surface is a high performance BICO filter made from polyester with a PTFE membrane, providing a penetration efficiency level of 0.01% according to EN-60335-2-69.

A protective plate in the filter housing protects the filter cartridge from sparks and large particles.

### HEPA filter as an accessory

For applications and work environments with extra high filtration requirements, there is a supplementary high-efficiency HEPA filter (class 14).

# Three models. Three cleaning methods.

## CMF 10

Filter unit with manual cleaning and analogue control panel.

### Manual cleaning

The filter cartridge is rotated with a crank over two brushes in the lower part of the filter housing. The brushes remove loose dust particles stuck to the filter medium.

### Control panel CMF 10

The control panel features indicator lights for operation and function warnings, as well as a counter. On each side there are handles to control the filter unit when moving it and which are also usable surfaces.

Control panel **CMF 10**

As standard, beneath the control panel of the filter unit is a START/STOP switch for the fan and a 5 metre 3-phase 400V cable.

## CMF 20

Filter unit with motorised cleaning and digital control panel.

### Motorised cleaning

The filter cartridge is rotated via an electric motor in the filter housing over two brushes in the lower part of the filter housing. The brushes scrape and shake loose dust particles stuck to the filter medium. Cleaning is controlled easily via the control panel.

### Digital control panel for CMF 20/30

The CMF 20/30 control panel is digital and consists of a display with a menu selection for programming the desired settings. There are buttons on the panel to START/STOP the fan and for cleaning. Operation and cleaning requirements can be monitored via indicator lights for the fan and filter. On each side there are handles to control the filter unit when moving it and which are also usable surfaces.

As standard, beneath the control panel of the filter unit is a START/STOP switch for the fan, 5 metre 400V 3-phase cable, 1-phase 230V electric socket for automatic START/STOP of the fan, and a socket for a pliers sensor.

## CMF 30

Filter unit with motorised and pneumatic cleaning. With pneumatic cleaning, external compressed air is connected to the compressed air valve, which in combination with electro-mechanical cleaning makes the cleaning very efficient.

### Motorised and pneumatic cleaning

External compressed air is connected to a compressed air valve on the filter unit and blows onto the filter medium from the inside of the filter cartridge. The filter cartridge is rotated via an electric motor in the filter housing over two brushes in the lower part of the filter housing. The brushes scrape and shake loose dust particles stuck to the filter medium. Cleaning is controlled easily via the control panel.

Control panel **CMF 20/30**

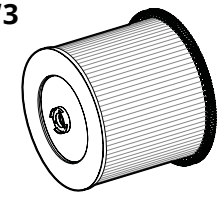
# Model programme

● = Included as standard ● = Accessory

| Feature | Designation | CMF 10 | CMF 20 | CMF 30 |
|---|---|---|---|---|
| **Manual cleaning** | - | ● | | |
| **Motorised cleaning** | - | | ● | ● |
| **Motorised & pneumatic cleaning** | - | | | ● |
| **Fan START/STOP switch** | - | ● | | |
| **Analogue counter for operating hours** | - | ● | | |
| **Indicator light for operation** | - | ● | | |
| **Audible alarm** | - | ● | ● | ● |
| **Master switch** | - | ● | ● | ● |
| **High efficiency BICO polyester filter with PTFE membrane** | CFS 140W3 | ● | ● | ● |
| **Filter brushes for manual cleaning** | CMF 137568 | ● | ● | ● |
| **Protective plate for filter** | - | ● | ● | ● |
| **Extraction arm PRF 3000-160** | PRF 3000-160 | ● | ● | ● |
| **START/STOP for motorised cleaning via display** | - | | ● | ● |
| **Operating indication via display** | - | | ● | ● |
| **START/STOP for fan via display** | - | | ● | ● |
| **Power socket 1-phase 230V for hand tools with automatic START/STOP** | - | | ● | ● |
| **Counter for operating hours via display** | - | | ● | ● |
| **Airflow indicator** | - | | ● | ● |
| **Indicator for filter replacement via display** | - | | ● | ● |
| **Pliers sensor for automatic START/STOP** | STG 430 | | ● | ● |
| **START/STOP the filter unit on the extraction arm** | PRFC T | | ● | ● |
| **Wall bracket for fixed mounting** | - | ● | ● | ● |
| **Extension hose 8 metre** | PFS-160/8 | ● | ● | ● |
| **Extension hose 4 metre** | PFS-160/4 | ● | ● | ● |
| **Spark trap (for extraction arm PRF 3000-160)** | PR ST | ● | ● | ● |
| **Internal silencer** | CMF SI | ● | ● | ● |
| **External silencer** | CMF SE | ● | ● | ● |
| **HEPA filter (class H14)** | CFH 120 | ● | ● | ● |
| **Filter bag for replacing the filter cartridge** | CMF PCW3 | ● | ● | ● |
| **Dust bag for emptying the dust collector** | CMF PSW3 | ● | ● | ● |
| **Magnet for securing of dust bag** | MG-80 | ● | ● | ● |
| **Wheel set for dust collector** | CFE HS | ● | ● | ● |

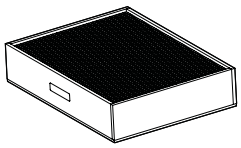
# Accessories

### Filter Cartridge CFS 140W3



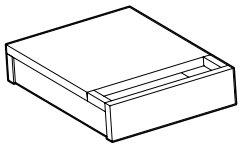
Filter cartridge for use during normal loads in ISO 15012-1 systems for safety during welding. The filter consists of a corrugated polyester material coated with a PTFE membrane that is protected by expanded metal on the inside. For contactless filter replacement, Filter Bag CFE PCW3 is included when purchasing the CFS 140W3.

### HEPA Filter CFH 120



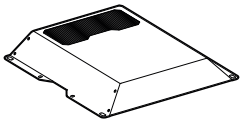
Filters the finest particles according to HEPA 14, before the air recirculates from the filter. Top mounted on the filter unit. Can be combined with a Silencer CMF SE.

### Silencer CMF SI



Reduces the operating noise of the machine. Can be combined with a Silencer CMF SE.

### Silencer CMF SE

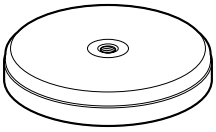


Reduces the operating noise of the machine. Can be combined with silencer CMF SI or HEPA filter CFH 120.

### CMF PSW3

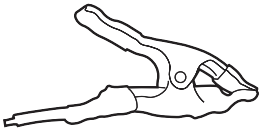
Dust bag for contact-free dust collector emptying.

### Magnet MG-80



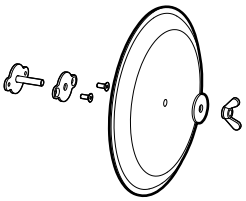
Magnet for securing of Dust Bag CFE PSW3.

### Pliers Sensor STG 430



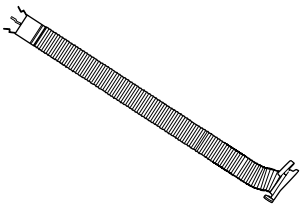
For automatic START/STOP of the filter unit.

### Spark trap PR ST



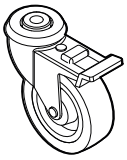
Protects the filter from large particles and reduces the risk of sparks. Mounted on the suction nozzle of the extraction arm.

### Extension Hose PFS-160



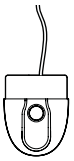
Enables work in difficult and remote areas. Mounted on the hood of the extraction arm with the magnet nozzle and quick coupling. Available in lengths of 4 and 8 metres.

### CFE HS



Wheel set for dust collector emptying.

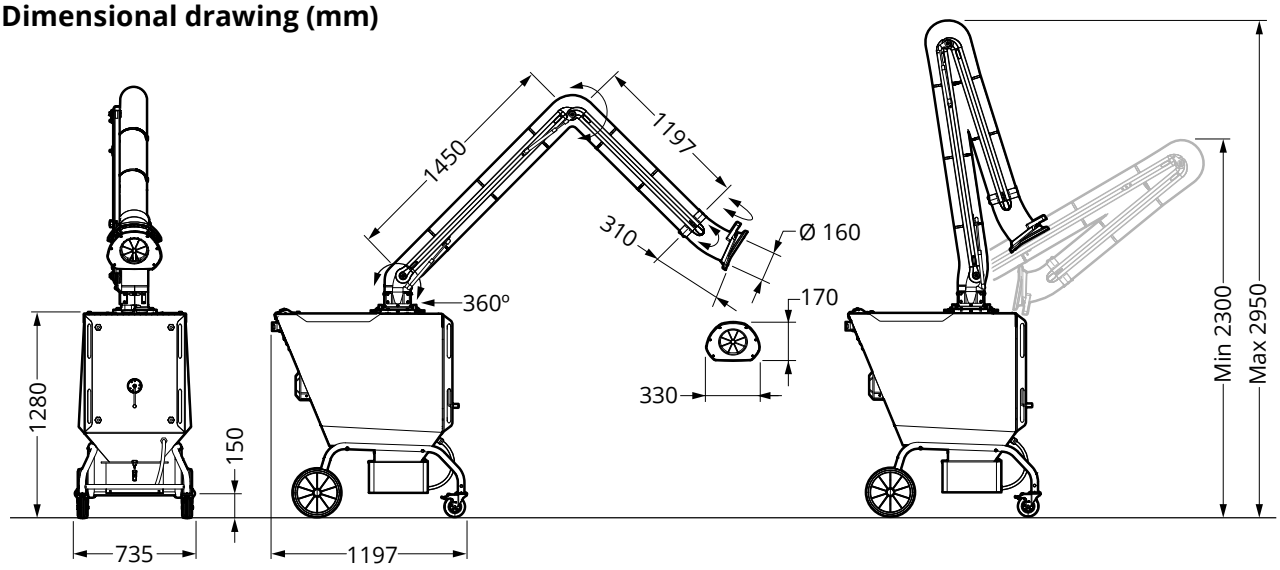
### PRFC T



Push button for START/STOP of the filter unit.

# Technical information

## Dimensional drawing (mm)




## Technical data

**Dimensions**

| | |
|---|---|
| See dimensional drawing | |
| Max. working radius: | 2900 mm |

**Electronics**

| | |
|---|---|
| Voltage: | 400 V 3~ |
| Frequency: | 50 Hz |
| Power: | 1.5 kW |
| Current: | 3.1 A |
| Enclosure class:: | IP 54 |

**Filtering**

| | |
|---|---|
| Number of filter cartridges: | 1 |
| Filter area: | 14 m2 |
| Airflow: | 1,800 m³/h |

**Sound level**

| | |
|---|---|
| Standard version: | 75 dB (A) |
| With silencer | |
| • CMF SI: | -4 dB (A) |
| • CMF SE: | -3 dB (A) |

**Temperature limits**

| | |
|---|---|
| Operating temperature: | +5 °C to +60 °C |
| Ambient temperature: | +5 °C to +50 °C |
| Transportation & storage temperature: | -25 °C to +60 °C |
| Max. humidity: | 80% |

**Alarm limit for cleaning**

| | |
|---|---|
| Audible alarm: | 600 m³/h |

# Specifications

## Form of delivery

The filter unit is supplied partilly assembled for easy installation.

## Surface treatment

| | |
|---|---|
| Plastic parts | PA, PA 30% |
| Aluminium parts | Anodised |
| Steel parts | Blackened finish, zinc-plated or powder-coated |

## Hose type

PVC. Flame-resistant, suitable for welding and flue gases. Temperature-resistant between -10°C and +90°C.

## Weight (kg)

| CMF 10 | CMF 20 | CMF 30 |
|---|---|---|
| 145 kg | 146 kg | 147 kg |

## Additional information

Can also be supplied as a wall-mounted version.



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