

# Room to Breathe!

**Mobile, powerful, and easy to handle!**

The fume extraction unit **FES-200** in combination with fume extraction torches provides the best possible welding fume extraction directly at the source.

The new **W3 version** is licensed for all **CrNi steels!**

**FES-200<sup>W3</sup>**

**ABICOR  
BINZEL** 

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BINZEL** 

# Fume Extraction Equipment FES-200 & FES-200 W3

## Optimum Fume Protection

### Optimum protection

Over the past few decades gas metal arc welding (GMAW) has become the chief joining process in nearly all industrial manufacturing fields. This development is a positive one; however the process brings with it a wide range of risks for the welder. Upon first inspection of a welder in action, it seems as though his protective gear counters all the negative effects produced by the welding. Leather gloves, welding apron, and gaiters protect the body, and the welding helmet or a shield in front of the eyes provides protection from the damaging light of the arc.

However, there is something that is often left out of the equation. Due to the often tight quarters where welding tasks are performed; welders must share air

with the welding process. Not only are vapors produced from unclean work-piece surfaces, there are also metal oxides contained in the welding fumes.

During the welding process floating particles and ultra-fine micro particles contaminate the air the welder breathes as well as the air available to the entire area.

In order to address and minimize these issues, trade associations and safety associations from all over the world have recommended that the removal of these fumes begin at the origin of the weld. This is only achievable with a torch that possesses fume extraction directly at the arc.

### The difference



MIG/MAG-torch **without** fume extraction



RAB GRIP-torch **with** FES-200 fume extraction

### Welding fumes captured – right where they form

These extraction-integrated torches have a clear advantage due to the fact that extraction takes place directly at the arc. Thus, the welder can continue to weld normally without needing to take constant breaks to adjust the exhaust hood.



**FES-200 and RAB GRIP – The ideal system**

The high-vacuum extraction unit FES-200 and FES-200 W3 with the RAB GRIP torches constitutes the perfect system to extract welding fumes most effectively. Hence, the welder and his environment are best protected, and the most productive work enabled.

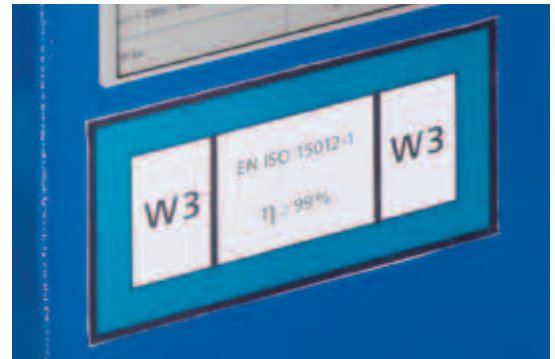


**TU Dresden – Measurement of the extraction efficiency**

*In a measurement of the extraction efficiency of the FES-200 in combination with the extraction torch from different manufacturers against DIN test standards<sup>1</sup> resulted in welding fume particle extraction from 330 amps and up to 95%. The RAB GRIP from ABICOR BINZEL achieved the best results.*

**W3 certification**

The FES-200 W3 was developed specifically to meet the demands of chrome and nickel material joining, and is certified by the Institute of Work Safety with the **W3 license for all welding applications** or related procedures with emissions suitable to KMR / 1.2 materials<sup>2</sup>. Thus, this device enables the filtering of the exhaust, and work to be conducted without these otherwise harmful effects.



**Classification of welding fumes**

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Fume Class	Separation (%)	Application
W1	≥ 95	Non-alloyed steel, alloyed steel with alloy components e.g. Ni and Cr, low-alloyed steel, x ≤ 5%
W2	≥ 98	Same as W1, plus alloyed steel with alloy components e.g. Ni and Cr (5% ≤ x ≤ 30%)
W3 (possesses the highest separation grade)	≥ 99	Same as W2, plus alloyed steel with alloy components e.g. Ni and Cr (highly alloyed steel with x ≥ 30% Ni-based alloys)

<sup>1</sup> Measurements in test taken according to DIN ISO 15011

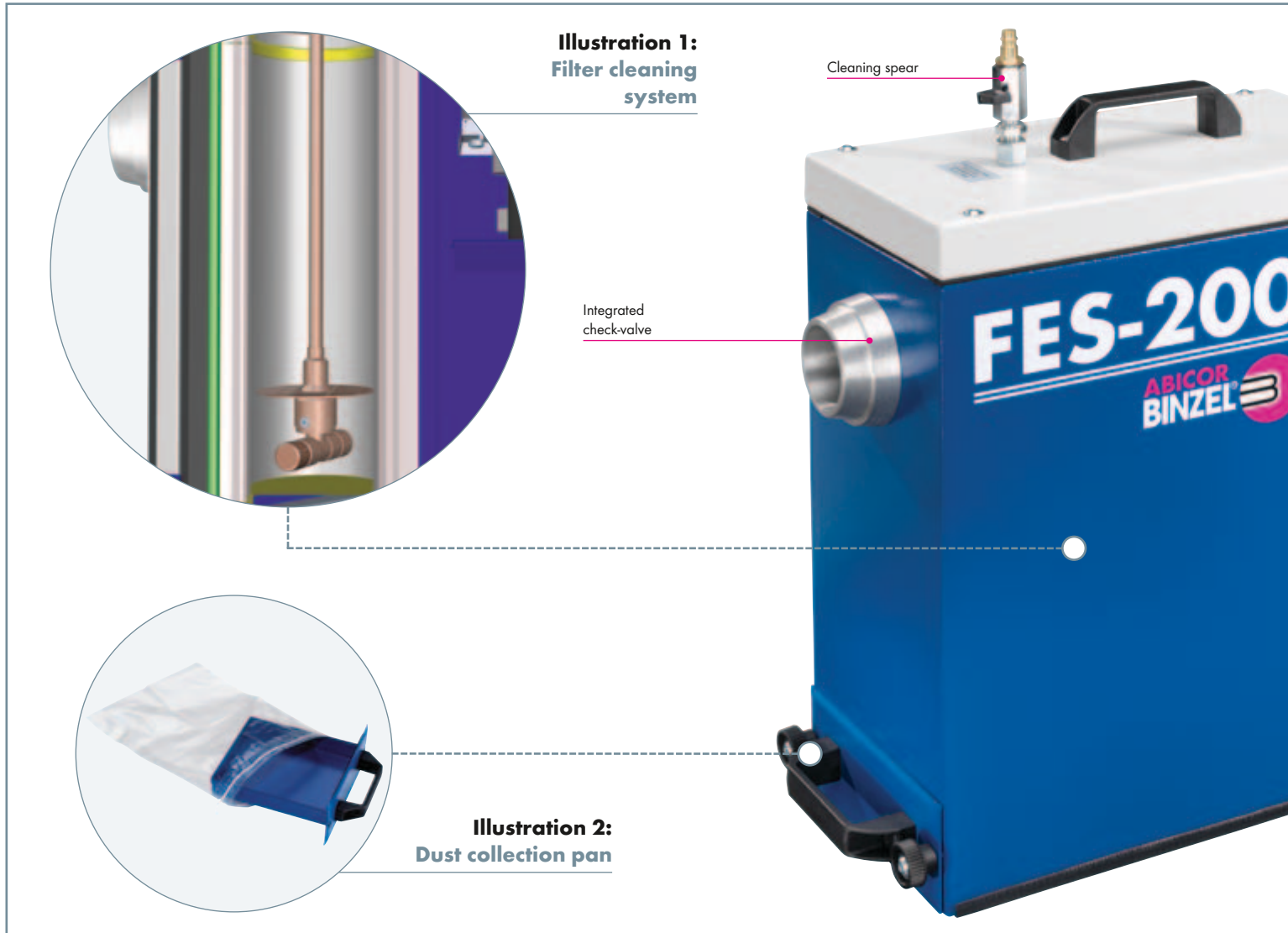
<sup>2</sup> List of carcinogenic, mutagenic, or toxic to reproduction materials

# Fume extraction unit

## FES-200

### Advantages that speak for themselves:

- Automatic start/stop function included in basic equipment
- Integrated manual filter cleaning for longer use
- Permanent filter for dust class M with separation rate according to DIN EN 15012 > 99%
- A filter contamination meter; indicates when filter requires service or replacement



### Illustration 1: Filter cleaning system

All of the FES-200 units enable the manual cleaning of the permanent filter cartridge through a unit-integrated rotating nozzle that operates via air pressure. This function provides for effective cleaning and long filter lifespans.

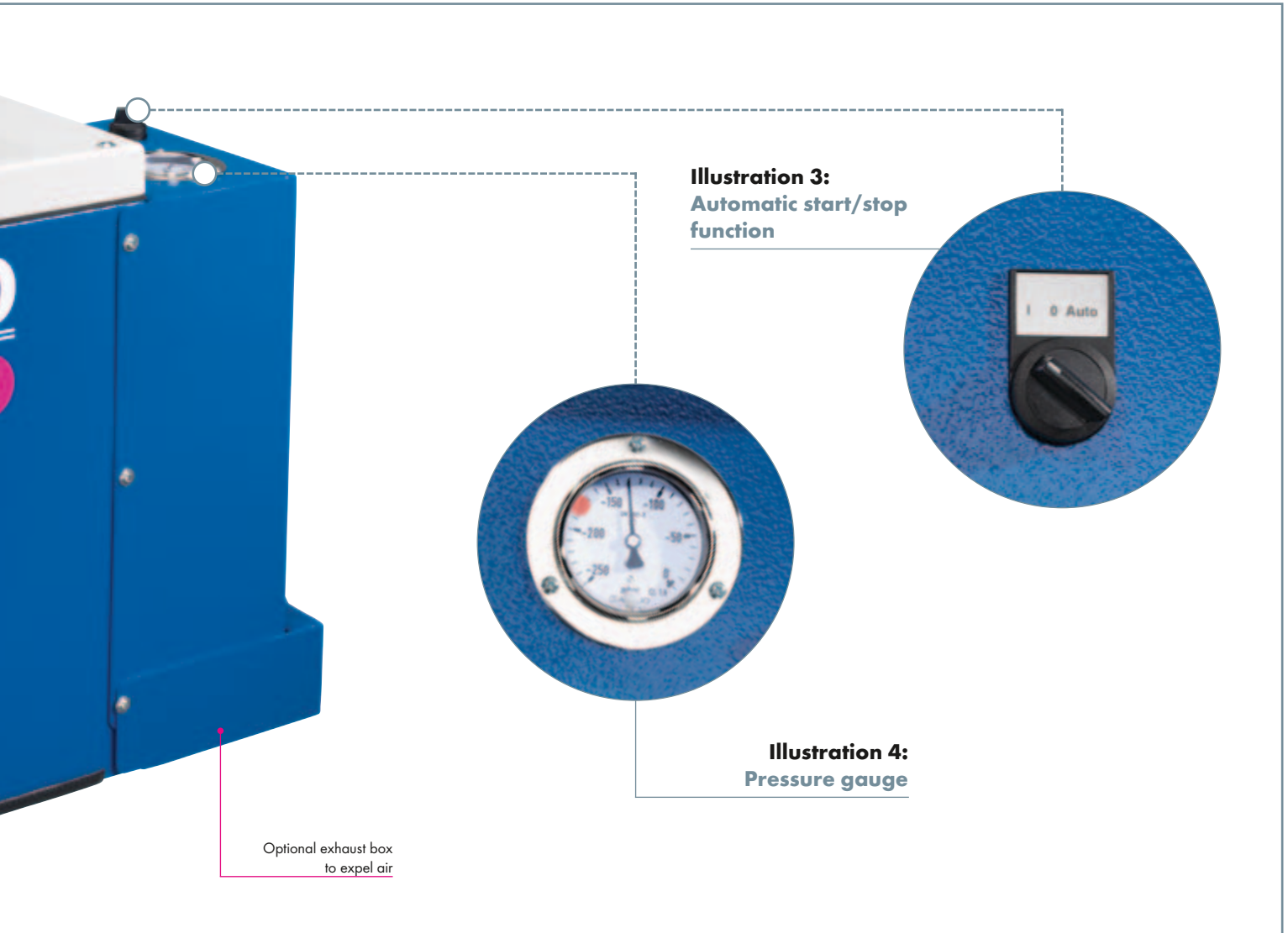
### Illustration 2: Dust collection pan

All of the extracted particles collect in the dust collection pan and are then easily disposed of in the convenient PVC bags.

### Illustration 3: Automatic start/stop function

The operation of the FES-200 with the automatic start/stop function prevents unnecessary noise, reduces energy consumption, and lengthens the lifetime of the motor. Included, is the necessary start/stop shunt that enables the FES-200 to start and function simultaneously with the welding process.

- 5 meter connector hose and hose connection
- Lockable dust collection pan for separate operations
- Available in 230 V/50 Hz and 115 V/60 Hz
- Weighs approx. 23 kg



**Illustration 3:**  
Automatic start/stop function

**Illustration 4:**  
Pressure gauge

Optional exhaust box  
to expel air

**Illustration 4:**  
**Pressure gauge**

Welding fumes contain particles of dirt that clog the filter cartridge over time. This increases the pressure inside of the unit. The pressure gauge makes it clear when the filter should be cleaned. Hence, effective extraction and optimum protection for the welders is guaranteed for the long term.

**Technical data:**  
**FES-200**

Dimensions:	500 mm long; 210 mm wide; 590 mm high
Weight:	approx. 23 kg
Max. airflow:	200 m <sup>3</sup>
Connection diameter:	50 mm
Max. pressure:	19000 Pa
Voltage:	115 V / 230 V
Motor output:	1.1 kW
Filter:	Permanent filter for dust class M, 0.8 m <sup>2</sup>

# Fume Extraction Unit

## FES-200 W3

### Advantages that speak for themselves:

- IFA certified W3 license
- Permanent filter with separation rate of DIN EN 15012 > 99.9%
- Weighs approx. 23.5 kg
- Automatic start/stop function included as standard equipment
- Integrated manual filter cleaning system for longer uses

**Illustration 1:**  
Changing the filter cartridge



Additional stopper cap

Cleaning spear



**Illustration 2:**  
Dust collection pan

### **Illustration 1:** Changing the filter cartridge

The special filter cartridge developed for the W3 welding fume separation class enables a contactless contamination-free, filter change.

### **Illustration 2:** Dust collection pan

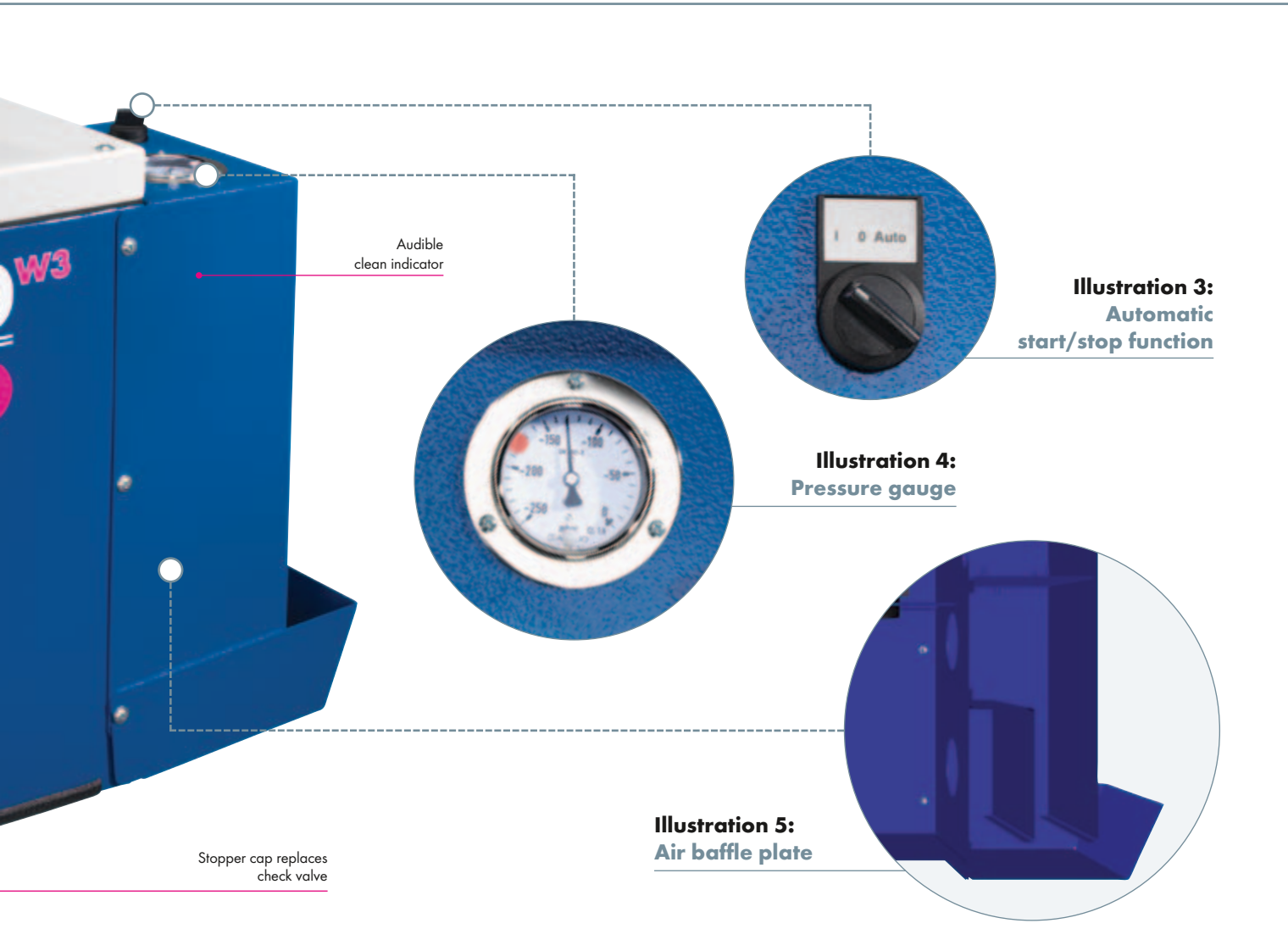
All of the extracted particles collect in the dust collection pan and are then easily disposed of in the convenient PVC bags.

### **Illustration 3:** Automatic start/stop function

The operation of the FES-200 with the automatic start/stop function prevents unnecessary noise, reduces energy consumption, and lengthens the lifetime of the motor. Included, is the necessary start/stop shunt that enables the FES-200 to start simultaneously with the welding process.

- A filter contamination meter; only clean when necessary
- Additional audible clean indicator
- Contactless filter replacement

- Exhaust baffle plate – prevents dust on the ground from being disturbed



**Illustration 3:**  
Automatic start/stop function

**Illustration 4:**  
Pressure gauge

**Illustration 5:**  
Air baffle plate

**Illustration 4:**  
**Pressure gauge**

Welding fumes contain particles of dirt that clog the filter cartridge over time. This increases the pressure inside of the unit. The pressure gauge makes it apparent when the filter should be cleaned. Hence, effective extraction and optimum protection for the welders is guaranteed for the long term.

**Illustration 5:**  
**Air baffle plate**

In most welding areas the ground is covered with dust and dirt particles, the air baffle plate on the W3 prevents any disturbance of this dust, hence, furthering the air purity by eliminating this contamination factor.

**Technical data:**  
**FES-200 W3**

Dimensions:	630 mm long; 210 mm wide; 590 mm high
Weight:	approx. 23.5 kg
Max. airflow:	200 m <sup>3</sup>
Connection diameter:	50 mm
Max. pressure:	19000 Pa
Voltage:	115/230V
Motor output:	1.1 kW
Filter:	Permanent filter for dust class H13, 0.8 m <sup>2</sup>

# Fume extraction unit & Accessories

## FES-200 & FES-200 W3

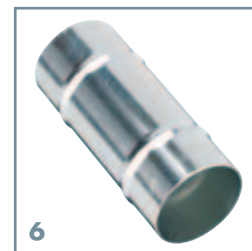
### Complete extraction unit



### Extraction unit package includes:

- Extraction hose with sleeve, L = 5.00 m
- Start/stop shunt
- 10 dust collection bags
- Filter cartridge

### Replacement parts and accessories



Pos.	Description	Part-No.
1	Complete unit FES-200 (230 V, 50 Hz)	601.0001.1
	Complete unit FES-200 (115 V, 60 Hz)	601.0002.1
2	Complete unit FES-200 W3 (230 V, 50 Hz)	601.0034.1
	Complete unit FES-200 W3 (115 V, 50 Hz)	601.0035.1
3	Carbon brush (230 V)	601.0005.1
	Carbon brush (115 V)	601.0063.1
4	Filter cartridge FES-200	601.0008.1
	Filter cartridge FES-200 W3	601.0048.1
5	Hose with sleeve, L = 5.00 m	601.0015.1
6	Adapter ring (connection for two hoses)	601.0046.1
7	Start/stop shunt, 4-pole	601.0041.1
not ill.	Start/stop shunt, 7-pole	601.0020.1
8	Dust collection bag (w/o pan)	601.0021.10
9	Exhaust casting FES-200 (optional)	601.0023.1
10	Adapter ring FES-200 / RAB Plus (50 / 44 mm)	601.0031.1



Alexander Binzel Schweistechnik GmbH & Co. KG  
 P.O. Box 10 01 53 · D-35331 Giessen  
 Phone: +49 (0) 64 08/59-0  
 Fax: +49 (0) 64 08/59-191  
 Email: info@binzel-abicor.com

www.binzel-abicor.com