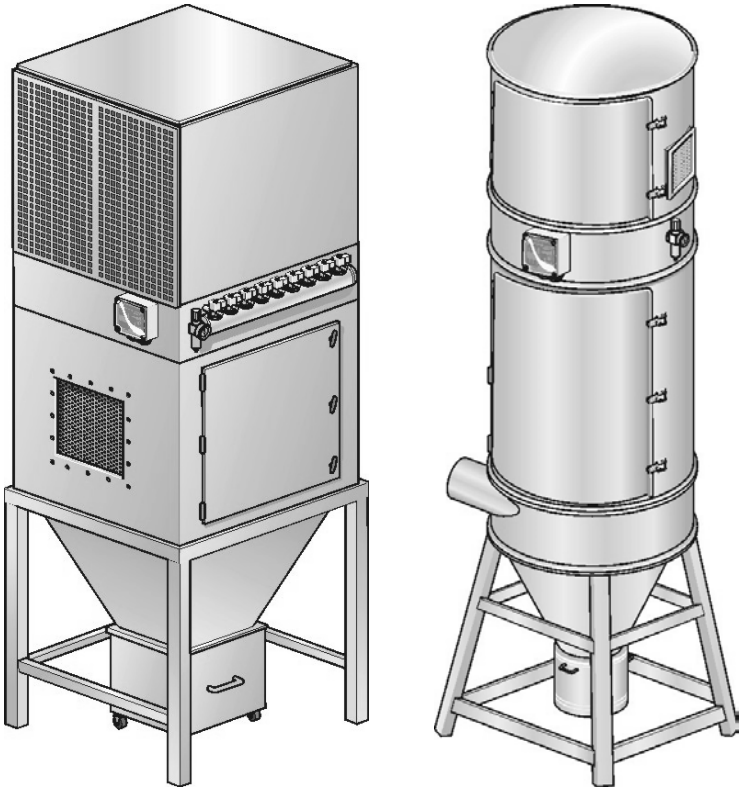
Translation of original instructions with installation instructions
Dust collector

Types SFK / SFR EcoLine

Mat. No. of Original Instructions
72336172



1 Contents

2 General safety instructions

2.1 Safety instructions for installation and operating personnel

This translation of the Original Instructions contains important safety information which must be heeded at all times during installation, normal operation and maintenance. Non-observance can result in the following risks to persons and the environment as well as in damage to the machine or plant:

⇨ Failure of critical functions of the machine or plant or of its component parts.

⇨ Danger to persons from electrical or mechanical effects as well as from chemical reactions.

⇨ Danger to the environment owing to the leakage of hazardous substances.

Before installation / start-up:

- Read this translation of the Original Instructions carefully.
- Make sure that installation and operating personnel are adequately trained.
- Make sure the contents of the Original Instructions are fully understood by the responsible persons.
- Define areas of responsibility and competence.
- Prepare a maintenance schedule.

During operation of the plant:

- Keep this translation of the Original Instructions handy at the place of use.
- Heed the safety instructions. Always operate the machine / plant in accordance with its ratings.

If in doubt:

- Consult the manufacturer.

2.2 Warning structure

Where possible, warnings are structured according to the following system:

Signal word	
Possibly with symbol	**Nature and source of the danger** ⇨ Potential consequences of non-observance • Action to avert the danger.

2.3 Warning symbols used

⚠ DANGER!
Immediate danger! ⇨ Non-observance will result in serious or fatal injury.

⚠ WARNING!
Potentially dangerous situation! ⇨ Non-observance can result in serious or fatal injury.

⚠ CAUTION!
Potentially dangerous situation! ⇨ Non-observance can result in minor or moderate injuries.

IMPORTANT!
Potentially dangerous situation! ⇨ Non-observance can result in property damage.

2.4 Other symbols used

	Danger: High voltage!
	Danger information about explosion protection
	Information about environmental protection
	Protective clothing must be worn!
	Eye protection must be worn!
	Safety helmet must be worn!
	Respirator must be worn!
	Hand symbol: Indicates general information and recommendations
•	Bullet: Indicates the order in which actions are to be carried out
⇨	Arrow: Indicates responses to actions

3 Glossary

Plant:
Customer's complete plant in which the FG dust collector is integrated.

Pressure difference / differential pressure
Pressure difference between the dirty air side and the clean air side of the filter (in [mbar] or [Pa]).

Final surge:
Abrupt increase in the flow rate at the end of a silo filling process.

Filter surface load:
Velocity at which the medium flows through the filter surface. Calculated as the ratio of volume flow to filter surface [m³/m² min].

Residual dust content:
Amount of solid particles on the clean air side [mg/m³].

Dew point:
Temperature at which a gas is saturated with moisture. Temperatures below the dew point lead to the formation of fog droplets.

Contract documentation:
Offer, order confirmation and delivery note.

4 General information

4.1 Manufacturer

Filtration Group GmbH
Schleifbachweg 45
D-74613 Öhringen
Phone +49 7941 6466-0
Fax +49 7941 6466-429
fm.de.sales@filtrationgroup.com
www.filtrationgroup.com

4.2 Information about the Original Instructions

FG Mat. No.: 72336172
Date: 23.11.17
Version: 01

4.3 ATEX model code

II	3	D	c	T 140°C	X
1.	2.	3.	4.	5.	6.

1. II — Valid for use above ground

2./3.

	Category 1		Category 2		Category 3	
Use in:	Zone 0	Zone 20	Zone 1	Zone 21	Zone 2	Zone 22
Atmo-sphere G = Gas D = Dust	G	D	G	D	G	D

4. Types of protection
c = Constructional safety
d = Flameproof enclosure

5. T 140°C = The maximum surface temperature on the dust collector is 140°C.
A temperature class is specified for gas.
T4 = 140°C

6.

X	A)	Suitable for dusts with a minimum ignition energy greater than 3 mJ
	B)	Suitable for dusts with a minimum ignition energy greater than 10 mJ and pneumatic conveying
	C)	A suitable decoupling component must be provided on the pressure, suction and discharge sides prior to starting up the pressure burst resistant version of the filter unit

(Space for name-plate)

(Space for ATEX name-plate)

The Ex type of protection is only valid in conjunction with the declaration of conformity.

5 Intended application

⚠ DANGER!

PROHIBITED:

- Use for purposes other than that described below without prior consultation with the manufacturer.
- Use in hazardous areas unless explicitly mentioned in the contract documentation.
- Use with smouldering, burning or sticky particles.
- Use with highly explosive dusts (e.g. explosives, etc.).
- Temperatures below the dew point.
- Hazardous substances and materials.

⚠ CAUTION!

This FG dust collector is only allowed to be used in accordance with the operating conditions specified in the contract documentation and in the Original Instructions. All forms of use which deviate from or exceed the limits of use described above are considered to be contrary to the intended purpose. The manufacturer shall not be liable for any damage resulting from such use.

CAUTION!

Conditionally allowed:

- Use of solvents in consultation with the manufacturer.

FG dust collectors are designed for dry separation of the dust particles in dust-laden air.

The cartridges of the SFR and SFK. models can be cleaned by air pressure without interrupting the filtration process.

Main applications:

- Sucking off dust from workplaces
- Sucking off dust from machines
- Separating fine dust downstream of a cyclone
- Venting silos
- Emptying bags

6 Limits of the machine

The FG dust collector is supplied in two different versions as defined by the EC Machinery Directive (2006/42/EC):

- Completed machinery
- Partly completed machinery

6.1 Completed machinery

- Dust collection system with a fan and switch box or a fan main switch.
- Declaration of conformity (section 19)

6.2 Partly completed machinery

- Dust collection system with a fan and a cleaning controller.
- Dust collection system without a fan.
- Declaration of incorporation (section 18)

7 Machine description

7.1 Principle of the SFK process

Filtration

1
The dust-laden air flows into the dirty air section.

2
The dust particles are separated on the cartridges.

3
The cleaned air enters the clean air section.

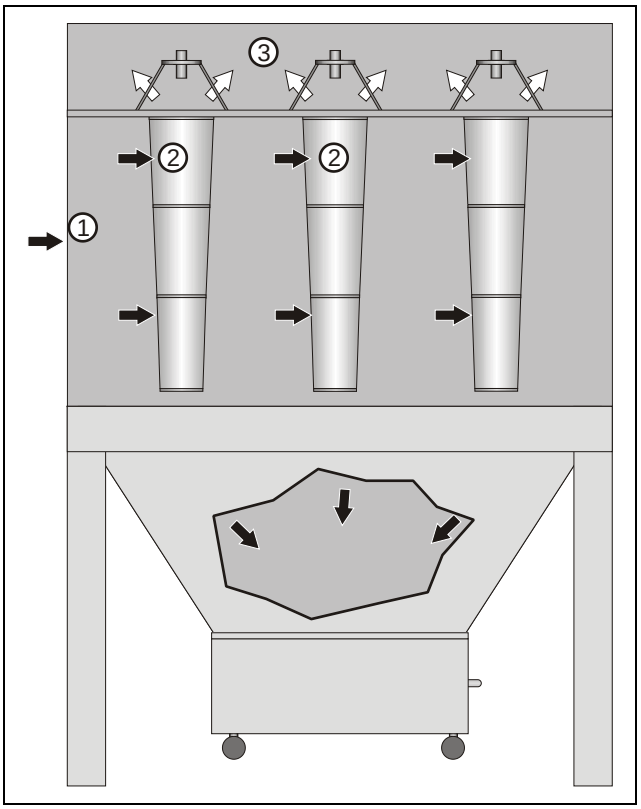


Fig. 1: Filtration principle of the SFK

Cleaning

4
The cartridges are cleaned either individually or in groups by means of a pulsed jet of compressed air. The filtration process does not need to be interrupted for cleaning.

5
The pulsed air jet causes the filter cake to be detached uniformly.

6
The accumulated dust drops down to the bottom.

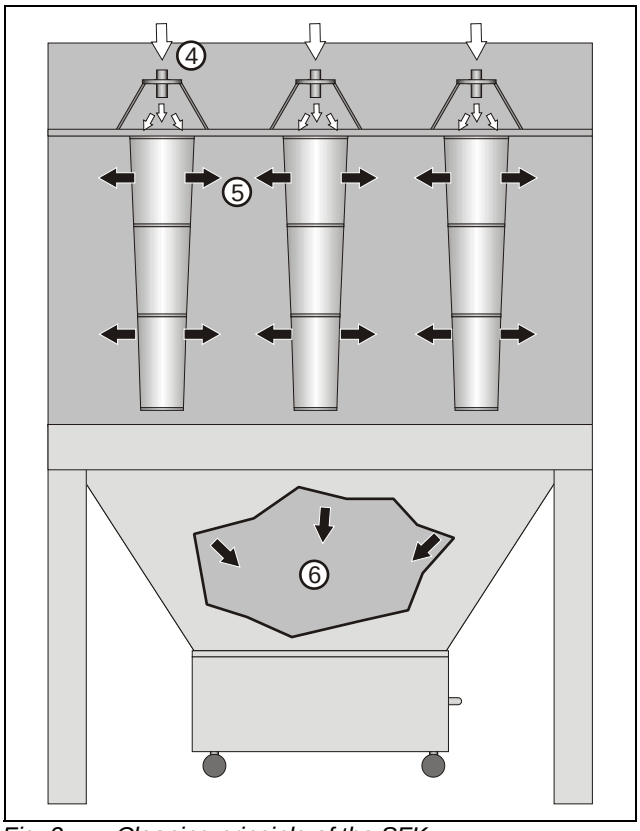


Fig. 2: Cleaning principle of the SFK

7.2 Principle of the SFR process

Filtration

1
The dust-laden air flows into the dirty air section.

2
The dust particles are separated on the cartridges.

3
The cleaned air enters the clean air section.

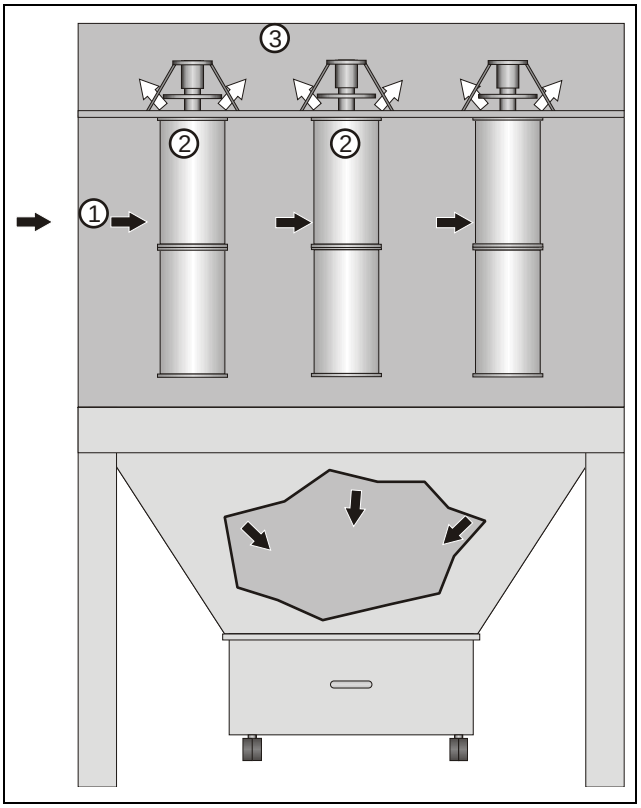


Fig. 3: Filtration principle of the SFR

Cleaning

4
The cartridges are cleaned either individually or in groups by means of rotating wings. The filtration process does not need to be interrupted for cleaning (EXCEPTION: dust collectors with only one cleaning valve).

5
The dam plate is forced downwards and interrupts the volume flow.

6
The cartridge pleats are blown radially outwards by the rotating wing. The rotary movement of the wing (approx. 10 Hz) produces a lateral vibratory movement on the pleats that enhances the cleaning effect.
At the end of the cleaning cycle, the dam plate is forced back up again by the airflow.
In the case of flanged body-type filters (type A), the dam plate is forced back up again by spring force.

The cleaning process causes the filter cake to be detached uniformly.

7
The accumulated dust drops down to the bottom.

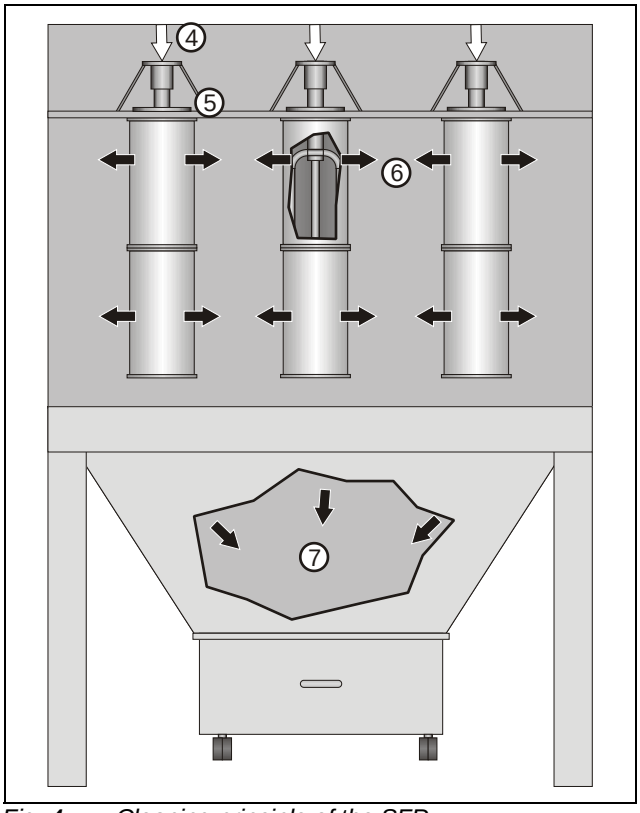


Fig. 4: Cleaning principle of the SFR

7.3 Main components of the dust collector

☞	All main components shown here are also valid for the round collectors.

7.3.1 Front view

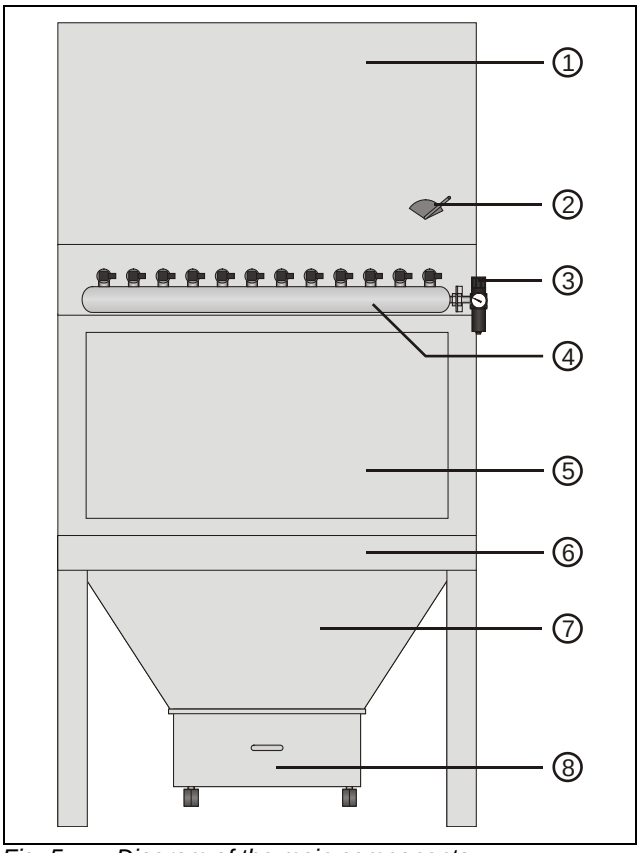


Fig. 5: Diagram of the main components

1	Fan silencer (optional)
2	Lever for damper on fan (optional)
3	Compressed air maintenance unit (optional)
4	Pressure vessel
5	Access door
6	Support frame
7	Hopper
8	Collection bin

7.3.2 Side view

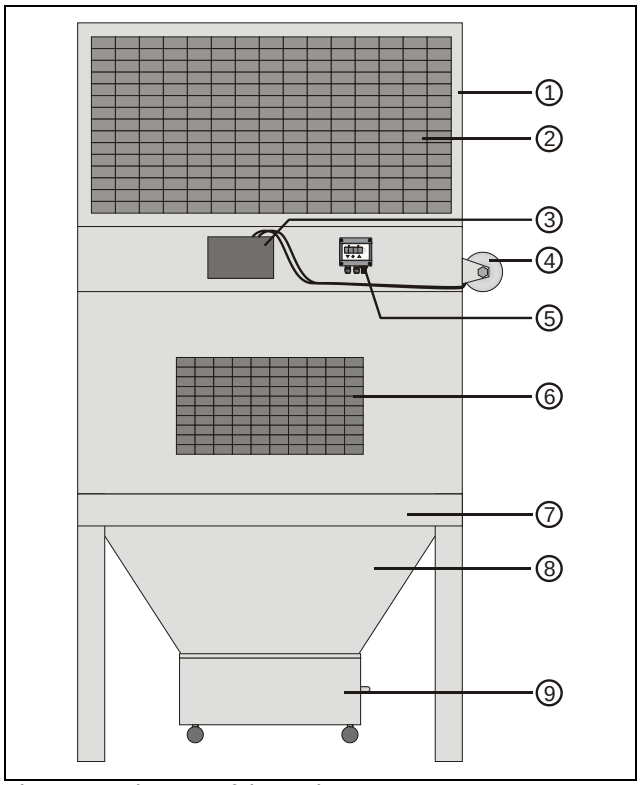


Fig. 6: Diagram of the main components

1	Fan silencer
2	Filter output
3	Cleaning controller or terminal box
4	Pressure vessel
5	Differential pressure indicator (optional)
6	Filter input
7	Support frame
8	Hopper
9	Collection bin

7.4 Designs

⇨ The dust collector can be supplied with various optional devices and in different designs.

- Refer to the order confirmation or the contract documentation for details of your dust collector's specific design.
- Note the model code (section 16).

☞	All filter designs can be fitted with a weather protection cover or a fan / silencer. If a silencer is fitted, the customer must provide a cable gland for the fan if there is no external terminal strip.

7.4.1 Flanged body-type filter

⇨ Identification in the model code under section 5: A

⇨ Applications: e.g. mounting on a silo

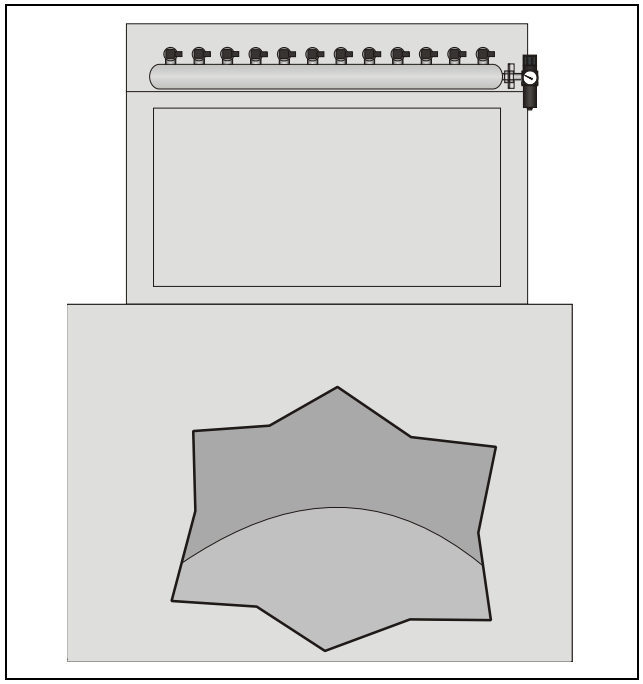


Fig. 7: Flanged body-type filter, type A

7.4.2 Intake filter

⇨ Identification in the model code under section 5: E

⇨ Applications: e.g. installation in a silo

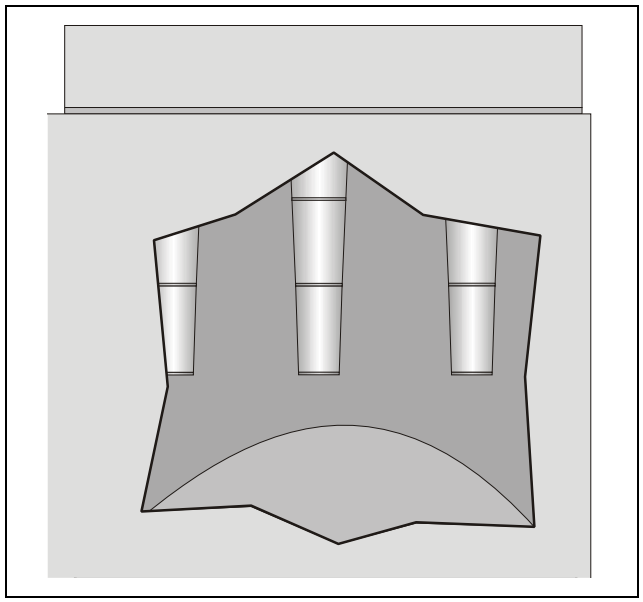


Fig. 8: Intake filter, type E

7.4.3 Collector with bin

⇨ Identification in the model code under section 5: S1
⇨ Applications: e.g. as a standalone dust collector

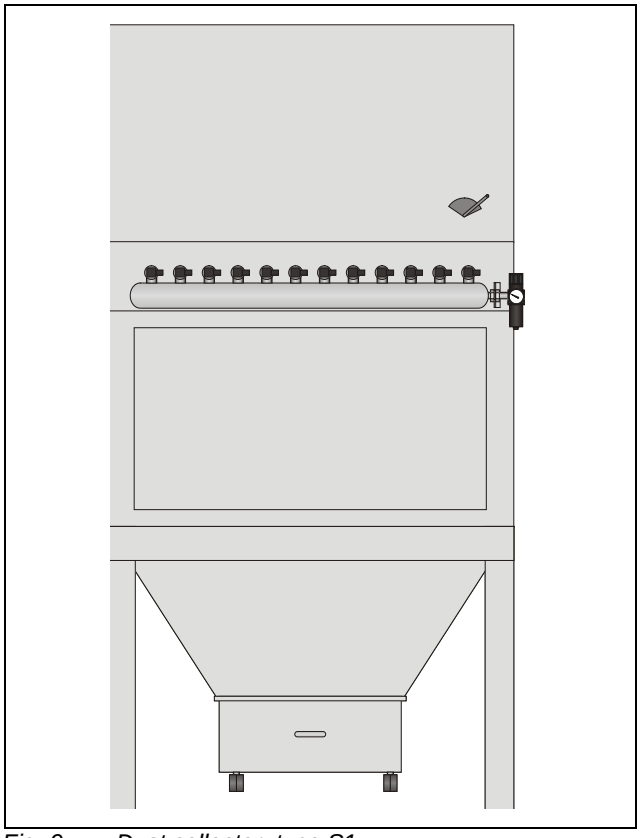


Fig. 9: Dust collector, type S1

7.4.4 Collector with bag

⇨ Identification in the model code under section 5: S2
⇨ Applications: e.g. as a standalone dust collector

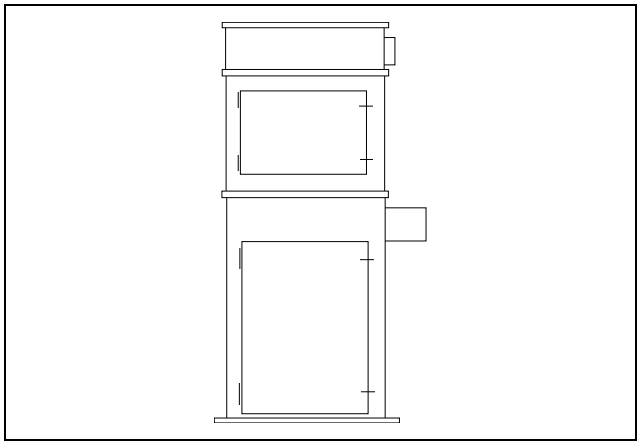


Fig. 10: Dust collector, type S2

7.4.5 SFK 30 model

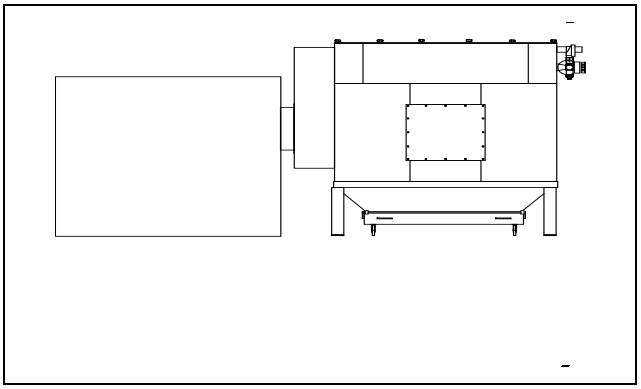


Fig. 11: SFK 30 model

8 Technical data

8.1 General data (excluding optional equipment)

8.1.1 Dust filter housing (standard design)

Material:	Steel sheet
Surface protection:	EPS plastic coating
Colour:	RAL 7035 (light grey)
Seals:	Natural rubber
Clamp rings:	Steel sheet, zinc plated
Max. operating temperature (without fan silencer):	70°C
Max. operating temperature (with fan silencer):	40°C
Pressure resistance:	+/- 50 mbar

☞	The values apply to the standard design unless otherwise indicated in the contract documentation.
☞	Other materials and temperatures are available as special designs.

8.1.2 Cartridges

Filter material:	Refer to order-specific list of spare parts
Seal material:	NBR, PUR
Metal parts:	Steel sheet, zinc plated

☞	Refer to the contract documentation (offer / order confirmation) and / or the cartridge data sheet for supplementary data.

8.2 Compressed air connection

SFR MODEL

Compressed air:	3 to 4 bar, dewatered
Consumption per cleaning cycle:	approx. 35 l_N*

SFK MODEL

Compressed air:	6 bar, dewatered
Consumption per cleaning cycle:	approx. 35 l_N*

8.3 Electrical power consumption

SFR and SFK MODELS

Fan:	Refer to contract documentation
AC power supply:	230 V AC, 16 VA
DC power supply (optional):	24 V DC, 12 VA

8.4 Noise emission

SFR and SFK MODELS

Continuous sound pressure level:	< 70 dB(A)[1]
Fan without silencer::	Approx. 75 to 90 dB(A)[2]
Fan with silencer:	Approx. 60 to 78 dB(A)[2]

8.5 Ambient conditions

Ambient temperature:	-15 to + 70°C
Floor:	Level, free from vibrations
Atmosphere:	Non-corrosive

If the unit is installed outdoors:
Fit a weather protection cover or a silencer.

8.6 Order-specific data

This data is order-specific and can be taken from the name-plate.

8.6.1 Name-plate

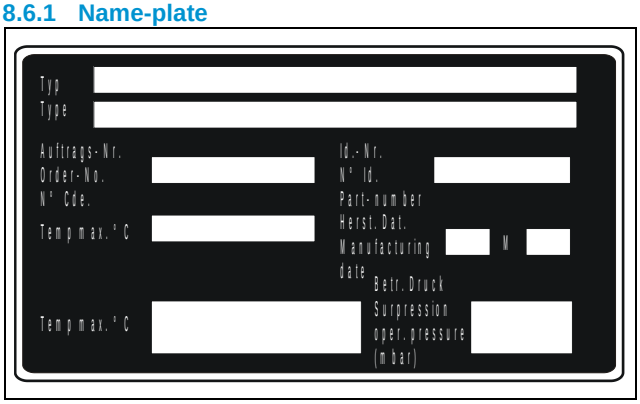


Fig. 12: Name-plate

8.6.2 Name-plate for Ex protection

☞	If the dust collector is approved for use in hazardous areas, an additional name-plate with details of the type of explosion protection is affixed to the unit.

Fig. 13: Name-plate for Ex protection

9 Transport and storage

9.1 Transport

- Always transport upright in the original packaging.
- Avoid vibrations.

9.2 Storage

- Always store upright in the original packaging.
- Always store in a dry, frost-free room.

9.3 Lifting

- Use hoisting gear with a sufficient load-bearing capacity.
- Always lift each housing part individually.
- Use a cross member for rectangular collectors.

☞	Seaworthy packaging is specified in the contract documentation as an option.

[1] N = Normal conditions (roughly equivalent to the "suction capacity" of a compressor)
[2] Standard values

10 Installation

⚠ DANGER!

Explosion hazard!

⇨ Risk of injury to persons or damage to property.

- Make sure no ignition energy is produced that could be critical for the application. The ignition energy is calculated using the following formula:
  $5.22*D^{3.36}*d^{1.462}$
  D = Silo diameter in m
  d = Particle diameter in mm

⚠ DANGER!

Explosion hazard!

⇨ Risk of injury to persons or damage to property.

- This FG dust collector is only allowed to be installed and operated in the category specified in the contract documentation (offer / order confirmation).
- If no category is specified: Do not operate the FG dust collector in hazardous areas!
- The owner is responsible for zone classification.
- The owner is solely responsible for implementing the necessary explosion protection measures!
- If in doubt, please consult the responsible authorities.

⚠ DANGER!

Explosion hazard!

⇨ Risk of injury to persons or damage to property.

- The unit is only allowed to be installed, accepted and tested by a suitably trained person (99/98/EC).

⚠ WARNING!

If the unit is installed by unauthorised persons

⇨ Risk of injury.

⇨ All warranty claims are rendered invalid.

- The unit must be installed by a suitably trained person!

10.1 Installation

⚠ DANGER!

Explosion hazard!

⇨ Risk of injury to persons or damage to property.

- Check the conductivity between all components!
- Note the maximum permissible resistance: R < 10 Ω.
- Make sure earthing is provided on the site.

It must be possible to remove the inner assembly in order to carry out maintenance work.

10.1.1 Installing the standalone round collectors (S1, S2, S6)

- Lift the bottom part of the unit off the pallet and position it for installation.
- Align the air inlet nozzle with the supply line.
- Align the bottom part so that it is exactly horizontal.
- Bolt the bottom part tightly to a firm surface (use dowels).

Version with clamp ring

- Make sure the centre ring and the seal are inserted in the bottom part of the housing.
- Pull the clamp ring loosely over the bottom part of the housing.

Version with flange ring

- Glue on the seal.

- Lift the filter housing off the pallet using suitable hoisting gear and set it down it on the bottom part of the housing.
- Position the filter housing so that the access door is easily accessible.
- Insert the bolts through the bolt holes.
- Tighten the bolts symmetrically using the nuts and washers.
- Align the bolt holes on the site and have them reworked by the customer if necessary.
- Fit and tighten the clamp ring.
- Tap the clamp ring evenly several times with a mallet, then tighten it again.
- Repeat the above steps for the other housing parts (if any).

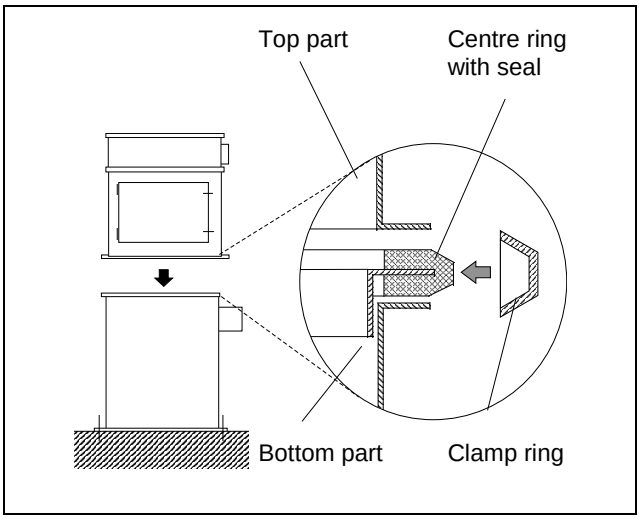


Fig. 14: Installation with clamp ring

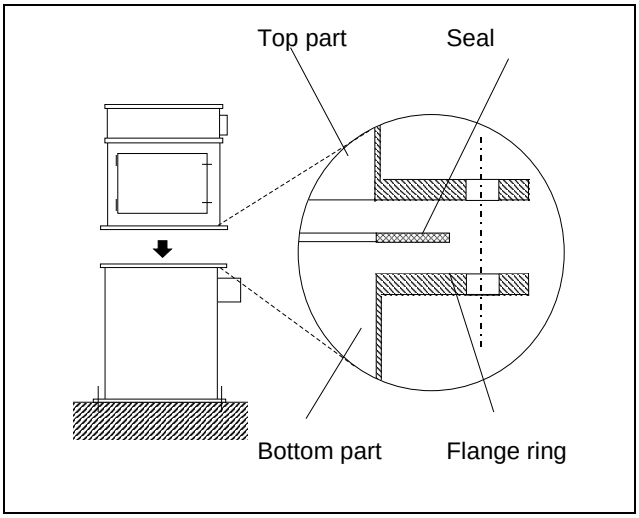


Fig. 15: Installation with flange ring

10.1.2 Installing the standalone rectangular or square collectors

☞	Allow sufficient room to withdraw the dust collection bin when choosing the installation position.

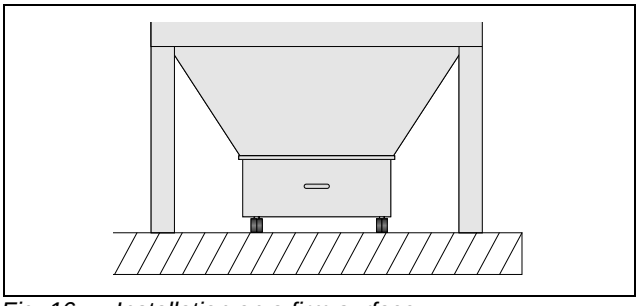


Fig. 16: Installation on a firm surface

- Lift the support frame off the pallet and position it for installation.
- Align the frame so that it is exactly horizontal.
- Bolt the frame tightly to a firm surface (use dowels).

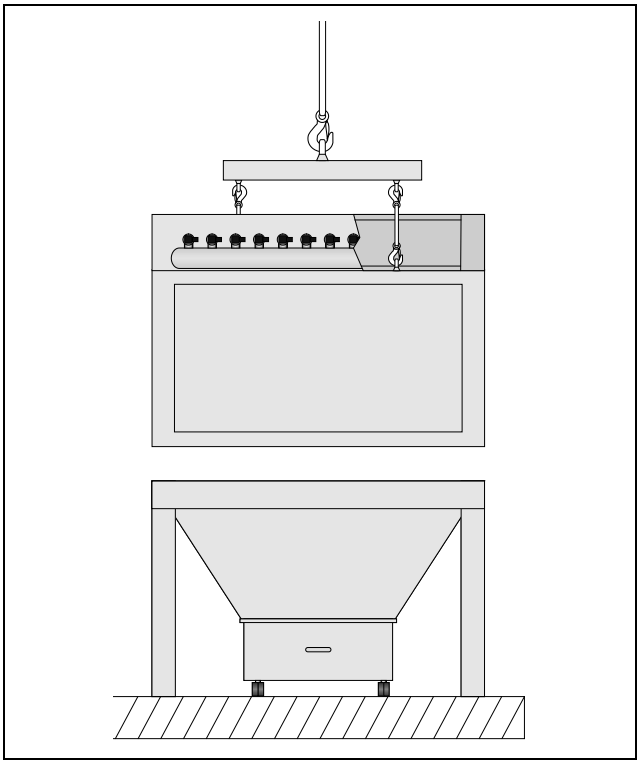


Fig. 17: Mounting the dirty air section

- Pick up the dirty air section with a cross member using the stiffeners on the filter plate.
- Align the dirty air connection and connect the pipe if necessary.
- Insert the bolts through the bolt holes.
- Tighten the bolts symmetrically.
- Align the bolt holes on the site and have them reworked by the customer if necessary.

10.1.3 Installing the SFK-30

☞	Allow sufficient room to withdraw the dust collection bin when choosing the installation position.

- Lift the support frame off the pallet and position it for installation.
- Align the frame so that it is exactly horizontal.
- Bolt the frame tightly to a firm surface (use dowels).
- Pick up the dirty air section with a suitable cross member using the eyebolts on the filter plate.
- Make sure the door and the collection bin are at the front.
- Bolt the support frame to the dirty air section on the underside.
- Insert the bolts through the bolt holes.
- Tighten the bolts symmetrically.
- Align the bolt holes on the site and have them reworked by the customer if necessary.

10.2 Mounting the fan housing

- Dismantle the cover and, if necessary, the discharge grille.

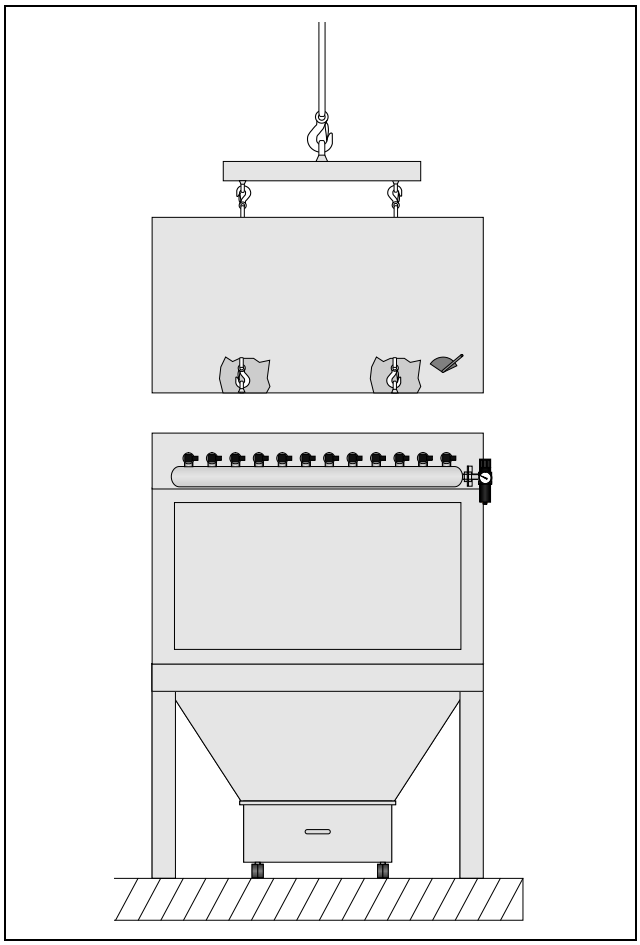


Fig. 18: Mounting the fan

- Pick up the fan housing with a cross member using either the eyebolts inside the housing or the external eyebolts, depending on the housing type.
- Mount the fan housing on the dirty air section using the guide pins (optional) and bolt it down.
- Insert the bolts through the bolt holes.
- Tighten the bolts and washers symmetrically.
- Align the bolt holes on the site and have them reworked by the customer if necessary.
- Fit earthing strips (optional) between all components.
- Mount the cover and, if necessary, the discharge grille.

10.3 Installing the flanged body-type / intake filters (A, E)

- Mount the cartridges (supplied loose).
- Lift the dust collector off the pallet and fit it into the customer's bottom flange.
- Position the filter housing so that the access door is easily accessible (design A).
- Bolt the dust collector tight.
- Insert the bolts through the bolt holes.
- Tighten the bolts symmetrically.
- Align the bolt holes on the site and have them reworked by the customer if necessary.

10.4 Installing other housing parts (optional)

- Pull the clamp ring loosely over the bottom part of the housing.
- Mount the next housing part on the bottom part and centre it.
- Fit and tighten the clamp ring.
- Tap the clamp ring evenly several times with a mallet, then tighten it again.
- Repeat the above steps for the other housing parts (if any).

10.5 Pressure relief valves

⚠ WARNING!

If inadmissible excess pressure occurs, the dust collector may be torn loose from its anchor point!

⇨ Risk of serious injury or damage to property if parts fall off the unit.

- Design measures must be incorporated to prevent inadmissible excess pressure on the dirty air side.
- Install pressure relief valves if necessary.

- Design measures must be incorporated to prevent inadmissible excess pressure on the dirty air side.
- Install pressure relief (PA+) and overfill protection (LA+) valves.
- Cordon off the danger area.
- Limit the final surge at the end of a silo filling process.
- If in doubt, consult the manufacturer.

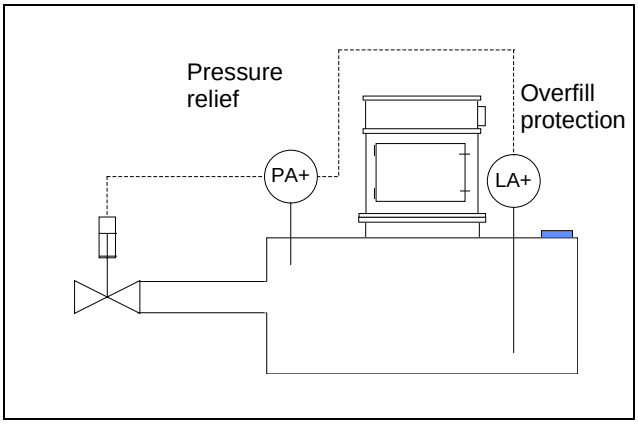


Fig. 19: Pressure relief measures (example)

10.6 Other installation recommendations

⚠ DANGER!

Explosion hazard!

⇨ Risk of injury to persons or damage to property.

- Make sure no ignition energy is produced that could be critical for the application. The ignition energy is calculated using the following formula:
  $5.22*D^{3.36}*d^{1.462}$
  D = Silo diameter in m
  d = Particle diameter in mm

- Avoid a direct inflow to the cartridges.
- Be careful not to exceed the maximum level in the silo.
- Provide level sensors and shut-off valves on the silo.

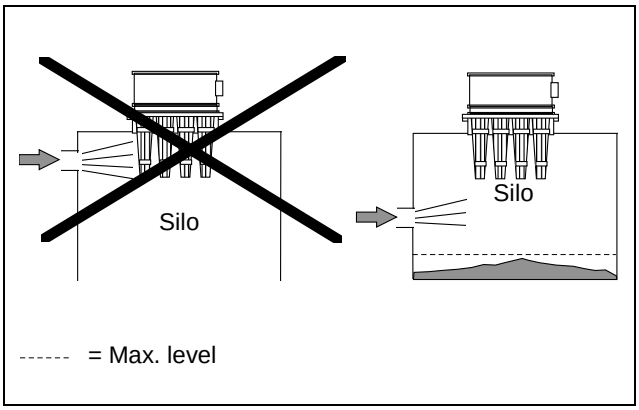


Fig. 20: Position of the air inlet nozzle

- Install a suitable pre-separating element (e.g. with tangential inflow) if there is a high concentration of dust in the dirty air.

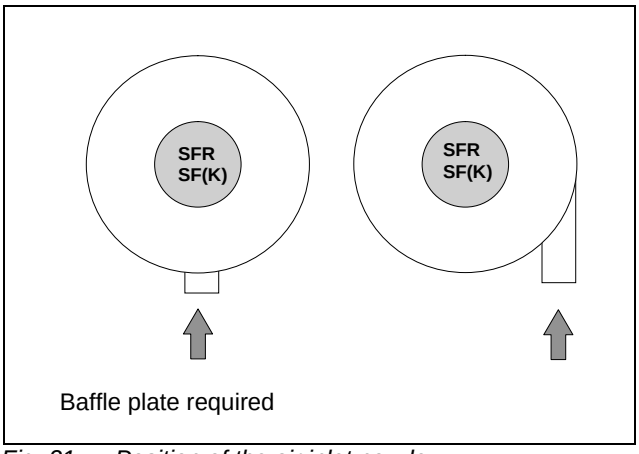


Fig. 21: Position of the air inlet nozzle

10.7 Pipe connections

CAUTION
Connect the pipes to the dust collector without stress!

- Avoid pipe bends or contractions immediately upstream or downstream of the dust collector.
- All connections must be properly secured (e.g. with pipe clamps, clamp rings, bolted flanges, etc.).
- Make sure all connections are tight.

10.8 Transferring the dirty air connection to the other side (rectangular collectors only)

⇨ Some rectangular collectors have two central connections for dirty air.

⇨ One of these connections is sealed by a blind cover.

- Loosen the bolts on the blind cover.
- Remove the blind cover.
- Unscrew the baffle plate and remove.
- Mount the baffle plate on the connection side.
- Bolt the blind cover onto the other side.

10.9 Compressed air connection

10.9.1 Compressed air quality

- Oil and water-free
- Free of debris
- Pressure (SFR): p = 3 to 4 bar
- Pressure (SFK): p = 6 bar
- Refer to PNEUROP 6611/1984 for quality grades

10.9.2 Connection of the 2/2-way valves

A: Rotating wing / multi-jet nozzle
P: Pressure vessel

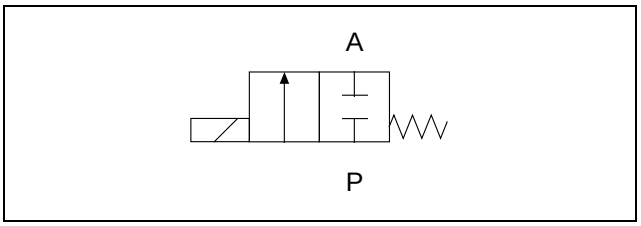


Fig. 22: Pneumatic diagram of the 2/2-way valves

10.9.3 Compressed air connection on round collectors

- Install an air pressure reducer and possibly a filter close to the dust collector.

☞	Install a suitable compressed air shut-off valve in a readily accessible position.

- Supply compressed air (G 1/2i) to the dust collector.

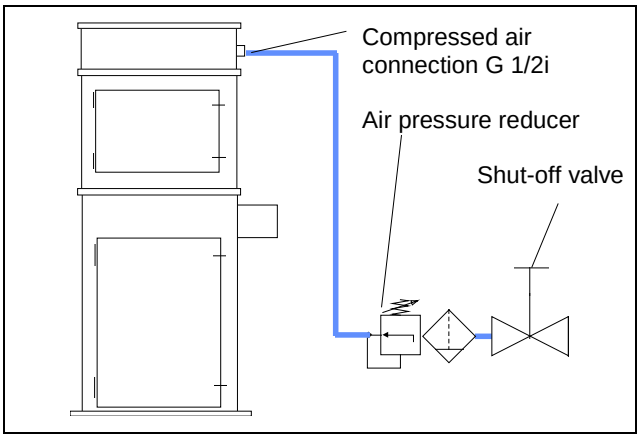


Fig. 23: Compressed air connection on round collectors

10.9.4 Compressed air connection on rectangular collectors

☞	Install a suitable compressed air shut-off valve in a readily accessible position.

- Supply compressed air (G 1/2i) to the air pressure reducer on the dust collector.

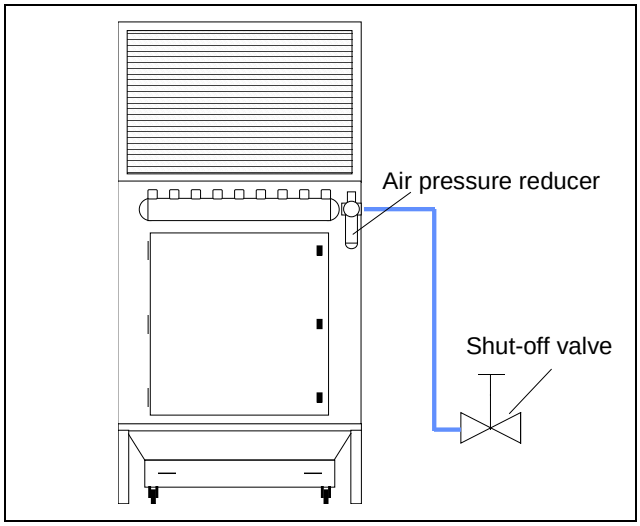


Fig. 24: Compressed air connection on rectangular collectors

10.10 Electrical connections

⚠ DANGER!	
	Danger of electric shock! ⇨ Risk of serious or fatal injury in case of contact with electrical components. • All electrical installation work must be carried out by a qualified electrician.

⚠ DANGER!	
EX	**Explosion hazard!** ⇨ Risk of injury to persons or damage to property. • Connect a protective earth conductor. • Comply with the permissible ambient temperature.

⚠ DANGER!	
EX	**Explosion hazard!** ⇨ Risk of injury to persons or damage to property. • Check the conductivity between all components! • Maximum permissible resistance: R < 10 Ω. • Make sure earthing is provided on the site.

10.10.1 Connection of the 2/2-way valves

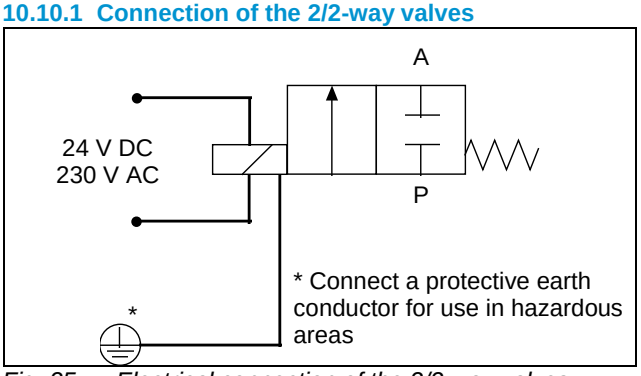


Fig. 25: Electrical connection of the 2/2-way valves

10.10.2 Fan connection (optional)

- Connect the fan to the electrical power supply.

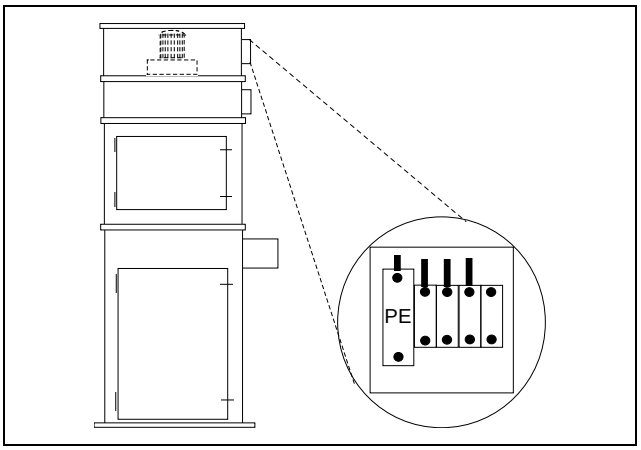


Fig. 26: Fan connection

- Provide an ON / OFF / EMERGENCY STOP button in accordance with DIN EN 60204/1.
- Install a suitable motor circuit breaker (refer to the contract documentation or the offer / order confirmation for the fan ratings).
- Start up the fan briefly, then allow it to coast down again.
- Compare the direction of rotation of the motor's fan wheel with that shown by the arrow.
- Reverse the terminal connections of the motor if necessary.
- We recommend connecting the PTC resistor (if one is available).

10.11 Cleaning controller

10.11.1 Time-controlled cleaning

The cartridges are cleaned individually and cyclically. The pulse and interval times vary according to the process. The times indicated below are recommended standard values.

t_z	Cycle time	Period during which all valves are cleaned once
t_p	Interval time	Time between two pulses
t_i	Pulse time	Valve opening time

The standard cycle time is approximately 8 minutes and is calculated as follows: interval time x no. of valves.

Example: 3 valves x 160 s = 480 s = 8 min

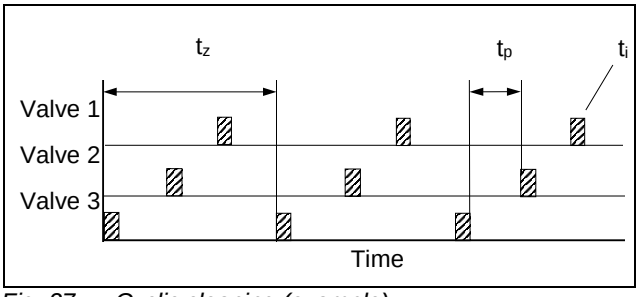


Fig. 27: Cyclic cleaning (example)

10.11.2 Differential pressure-controlled cleaning

The cartridges are cleaned cyclically when the maximum differential pressure is reached. The pulse and interval times vary according to the process. The times indicated below are recommended standard values.

t_z	Cycle time	Period during which all valves are cleaned once
t_p	Interval time	Time between two pulses
t_i	Pulse time	Valve opening time
t_N	Lag time	Time until the controller stops cleaning after the differential pressure drops below the threshold again

The standard cycle time is approximately 8 minutes and is calculated as follows: interval time x no. of valves.

Example: 3 valves x 160 s = 480 s = 8 min

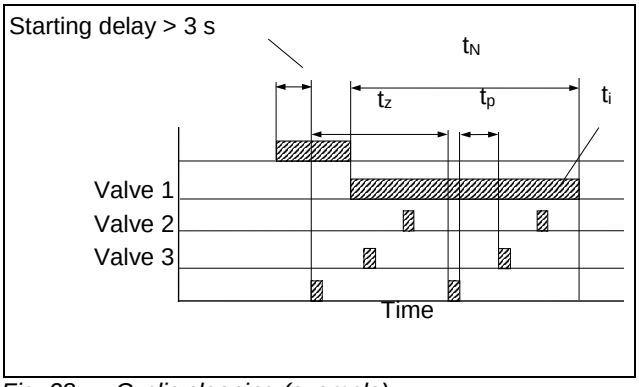


Fig. 28: Cyclic cleaning (example)

No. of valves	Cycle time t_z [min]	Interval time t_p [s]	Pulse time SFK t_i [s]	Pulse time SFR t_i [s]	Lag time t_N [min]
2	6.7	200	0.1	1.5	10
3	8.0	160			
4		120			
5		96			
6		80			
7		68			
8		60			
9		53			
10		48			
12		40			

☞	Use FG controllers.

10.11.3 Connecting the differential pressure indicator (optional)

- Install the differential pressure indicator so that it is free from vibrations.
- Connect the measurement lines to the dust collector:
  - ⇨ Dirty air side: "+"
  - ⇨ Clean air side: "-"

If the unit is retrofitted:

- Use FG measurement lines.

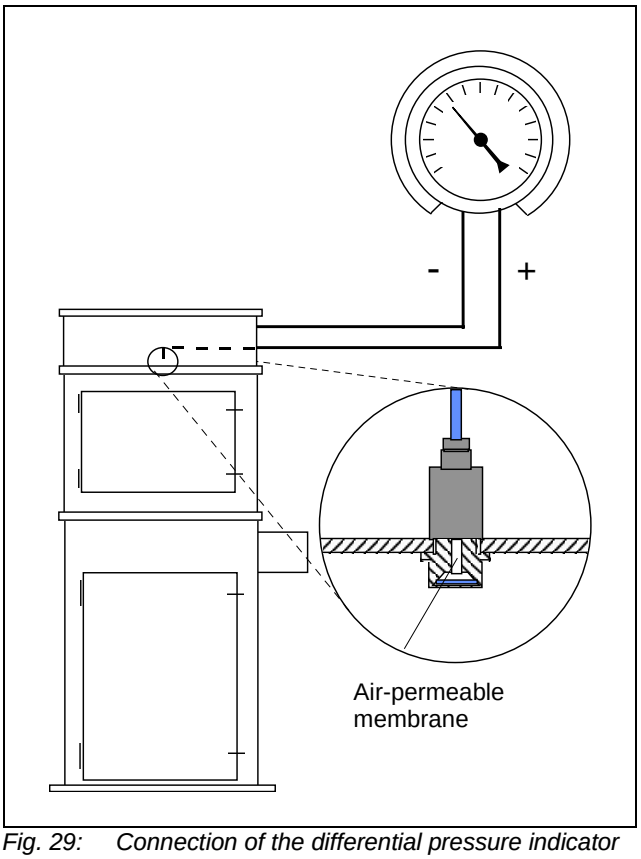


Fig. 29: Connection of the differential pressure indicator

11 Start-up

⚠ DANGER!

This FG dust collector must not be put into service until the relevant machinery into which it is to be incorporated has been declared in conformity with the applicable EC directives, harmonised standards, European standards or equivalent national standards.

⚠ DANGER!

Explosion hazard!

⇨ Risk of injury to persons or damage to property.

- Check the conductivity between all components!
- Maximum permissible resistance: R < 10 Ω.
- Make sure earthing is provided on the site.
- Never open access doors, etc. during cleaning or while the fan is operating.
- Don't throw smouldering or burning objects into the dust collection system.

⚠ WARNING!

Danger of bursting during pressure venting!

⇨ Risk of serious or fatal injury.

- Keep a safe distance while pressure venting is taking place (refer to the manufacturer's documentation for more information about pressure venting).

11.1 Initial start-up or start-up after a prolonged shut-down

- Inspect all plant components.
- Remove all parts that do not belong to the system (such as tools, installation waste, etc.).
- Check the pipe connections (e.g. secureness of clamps).
- Tighten all screws and bolts.
- Insulation or touch protection must be provided by the customer in case of high surface temperatures (>70°C).

11.2 Starting up the dust collector

IMPORTANT!

If the maximum permissible volume flow is exceeded

⇨ Risk of damage to the cartridges.

- Be careful not to exceed the maximum permissible volume flow when the unit is started up.

- Make sure the vibrator (optional) is securely mounted.
- Turn on the compressed air supply.
- Switch on the controller.
- Switch on the fan and / or start up the dusty plant.
- Throttle the volume flow if necessary.

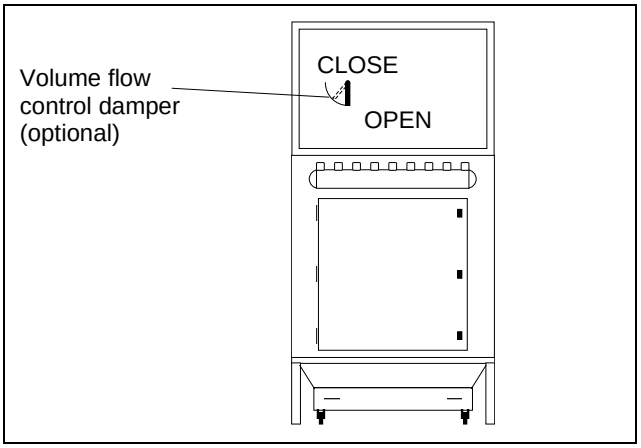


Fig. 30: Volume flow control on a rectangular collector

12 Normal operation

⚠ DANGER!	
	**Explosion hazard!** ⇨ Risk of injury to persons or damage to property. • Check the conductivity between all components! • Maximum permissible resistance: R < 10 Ω. • Make sure earthing is provided on the site.

SFR / SFK

The dust collector works automatically during normal operation with a suitable FG cleaning controller.

	The dust collector must be monitored in accordance with the inspection and maintenance schedule (refer to section 0).

12.1 General information about dust discharge

⚠ WARNING!	
	**If harmful substances are inhaled** ⇨ Risk of injury. • Suitable protective clothing and equipment should be worn whenever dust is discharged.
	Always dispose of dust in a manner which does not pollute the environment!

- Interrupt the volume flow.
- Start a manual cleaning cycle.
- Take steps to prevent the complete unit from being switched on again by unauthorised persons.
- Wear protective clothing and equipment.

12.2 Dust discharge with designs S1 and S2

- Open the access door (S2 only).
- Remove the full collection bin / bag
- Dispose of the dust in a manner which does not pollute the environment.
- Insert the empty bin or fit a new bag and make sure it is tight.
- Completely close the access door (S2 only).
- Start up the dust collector.

12.3 Emptying the dust drawer

⚠ DANGER!	
	**Explosion hazard!** ⇨ Risk of injury to persons or damage to property. • Check the conductivity between all components! • Maximum permissible resistance: R < 10 Ω. • Make sure earthing is provided on the site.

⚠ DANGER!	
	**Explosion hazard!** ⇨ Risk of injury to persons or damage to property. • Fit an earthing strip before and after discharging.

- Loosen the wing nut on the clasp of the earthing strip.
- Pull out the clasp of the earthing strip.
- Open the toggle-type fasteners on either side of the dust drawer.
- Pull the drawer out straight (be careful NOT to jam it!)
- Empty the dust (e.g. using a suitable industrial vacuum cleaner).
- Slide the empty drawer back underneath the dust collector as far as it will go.
- Close the toggle-type fasteners on either side of the dust drawer.
- Insert the clasp of the earthing strip underneath the wing nut.
- Tighten the wing nut.

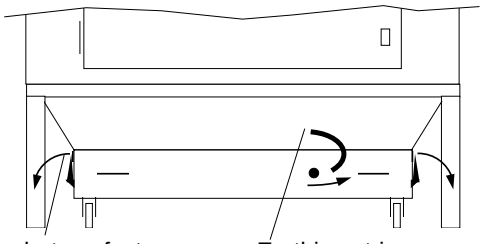


Fig. 31: Emptying the dust drawer

12.4 Discharging the collection bin

⚠ DANGER!

Explosion hazard!

⇨ Risk of injury to persons or damage to property.

- Fit an earthing strip before and after discharging.

⚠ CAUTION!

The handle is energised!

⇨ Risk of injury

- Don't allow the handle to open in an uncontrolled way!
- Grasp the handle firmly before withdrawing the latching bolt.

- Loosen the wing nut on the clasp of the earthing strip.
- Pull out the clasp of the earthing strip.
- Grasp the handle firmly.
- Withdraw the latching bolt and turn it.
- Open the handle carefully.

  ⇨ The collection bin is lowered.

- Pull the collection bin out straight (be careful NOT to jam it!)
- Discharge the bin.
- Slide the empty collection bin back underneath the dust collector as far as it will go.
- Push the handle down and hold it in the closed position.
- Turn the latching bolt so that it latches.
- Release the handle.
- Insert the clasp of the earthing strip underneath the wing nut.
- Tighten the wing nut.

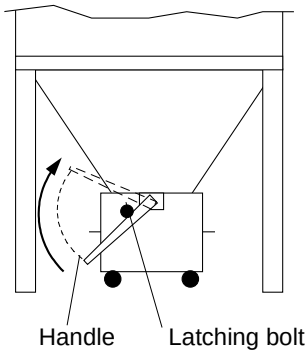


Fig. 32: Discharging the collection bin

13 Shutting down the dust collector

13.1 Temporary shut-down

- Switch off the fan or shut down the dusty plant.
- Turn off the compressed air supply.

13.2 Prolonged shut-down (> 48 h)

- Start a manual cleaning cycle.
- Switch off the fan or shut down the dusty plant.
- Turn off the compressed air supply.
- Decompress the pressure vessel (e.g. by starting a manual cleaning cycle).
- Carry out the maintenance work as described in section 0).

13.3 Emergency shut-down

- Actuate the EMERGENCY STOP button provided by the customer.

14 Troubleshooting

14.1 Troubleshooting

Fault	Possible cause	Remedy
Fan power too low at start-up	Fan rotating in wrong direction	Reverse the direction of rotation
Suction capacity too low	Not enough compressed air	Check the compressed air pressure (SFR: 3 to 4 bar) (SFK: 6 bar)
	Cartridges clogged	Check the cartridges and if necessary replace
	Inefficient cleaning	Check the controller
		Check the rotating wing (SFR)
		Check the dam plate (SFR)
	Pipe blocked	Open the pipe and clean it
	Cleaning inadequate	Clean more frequently
	Unsuitable cartridge type	Investigate alternative cartridges (e.g. PTFE coated)
	Dirty air section filled with dust	Discharge the dust
Dust accumulation on clean air side	Cartridge seats not tight	Tighten the cartridges
	Cartridges damaged	Inspect the cartridges for cracks / holes and if necessary replace
	Filter plate not tight	Check the filter plate
		Replace the seal

- For all other faults, please call FG Customer Service.

15 Maintenance

⚠ DANGER!

Explosion hazard!

⇨ Risk of injury to persons or damage to property.

- Work is only allowed to be carried out in hazardous areas if appropriate safety precautions are implemented.
- Safety precautions must be implemented by the owner.

⚠ WARNING!

If the system is maintained by unauthorised persons

⇨ Risk of injury.

⇨ All warranty claims are rendered invalid.

- The system must be maintained by a suitably trained person!

Before all maintenance work:

- Shut down the dust collector / plant.
- Clean the cartridges in a quick cleaning cycle.
- Turn off the compressed air supply.
- Decompress the pressure vessel (e.g. by starting a manual cleaning cycle).
- Take steps to prevent the machine / plant from being switched on again by unauthorised persons.

- Wear protective clothing and equipment appropriate to the hazard potential of the medium (e.g. eye protection, respirator, protective clothing, safety helmet, etc.).
- Carry out the maintenance work.
- Start up the dust collector / plant again.
- Observe the dust collector / plant:
  Does it operate normally?
- If the unit does not operate normally, consult the troubleshooting table (refer to section 14).

15.1 Inspection and maintenance schedule

- Refer also to the contract documentation.

15.1.1 SFK

Interval	Component	Activity
Weekly	Dust collector	Visual inspection of the exterior
	Compressed air maintenance unit	Visual inspection of the water separator, discharge if necessary
	Collection bin / bag	Visual inspection, empty if necessary[3]
Monthly	Cartridges	Check the assembly torque (> 6 Nm)
		Visual inspection for cracks
	Clamping bands	Visual inspection for corrosion
	Clamping band fittings	
	Dust collector	Check the conductivity between all components. Note the maximum permissible resistance: R < 10 Ω
Yearly	Compressed air connections	Check
	Cartridges	Check the conductivity between all components. Note the maximum permissible resistance: R < 10 Ω

☞	The necessary inspection and maintenance work is dependent on the particular application. Please consult the manufacturer if necessary.

* Cleaning should preferably take place at the end of a silo filling process, during work breaks or if a differential pressure of 15 to 20 mbar is exceeded

15.1.2 SFR

Interval	Component	Activity
Weekly	Dust collector	Visual inspection of the exterior
	Compressed air maintenance unit	Visual inspection of the water separator, discharge if necessary
	Collection bin / bag	Visual inspection, empty if necessary[4]
Monthly	Cartridges	Check the assembly torque (> 15 Nm)
		Visual inspection for cracks
	Clamping bands	Visual inspection for corrosion
	Clamping band fittings	Visual inspection for corrosion
EX	Dust collector	Check the conductivity between all components. Note the maximum permissible resistance: R < 10 Ω
Yearly	Compressed air connections	Check
	Cartridges	Check the conductivity between all components. Note the maximum permissible resistance: R < 10 Ω

☞	The necessary inspection and maintenance work is dependent on the particular application. Please consult the manufacturer if necessary.

15.2 Replacing the cartridges (SFR)

- Interrupt the volume flow.
- Start a quick cleaning cycle (clean each cartridge twice).
- Take steps to prevent the complete unit from being switched on again by unauthorised persons.
- Wear protective clothing and equipment.
- After approximately 5 minutes (time required for the dust to settle), bang hard on the access door so that any accumulated dust drops down to the bottom.
- Open the access door (rectangular collectors: double-bit key, round collectors: use the key supplied).
- Remove any debris with a hand brush.
- Lay a grating inside the filter system if you need to climb inside the unit in order to replace the filter (the grating can be ordered from FG as an option).
- Press the cartridge against the filter plate.
- Unscrew the star handle.
- Pull the cartridge vertically down and remove it.

Dust collector with fixing bolts (optional):

- Press the cartridge against the filter plate.
- Unscrew the star handle.
- Unscrew the cartridge anti-clockwise from the fixed position (approx. 30°), then pull it vertically down and remove it.

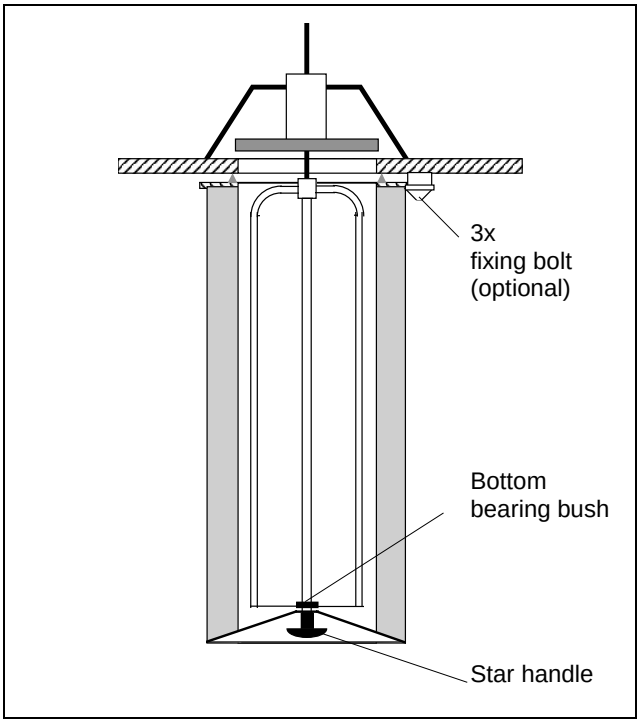


Fig. 33: Replacing the cartridges (SFR)

- Check the freedom of movement of the rotating wing.
- Check the bottom bearing bush of the rotating wing.
- Replace the bearing bush in case of visible wear.
- Fit a new, original cartridge.
- Screw on the star handle moderately tight (approx. 15 Nm) by hand.

Dust collector with fixing bolts (optional):

- Fit a new, original cartridge and screw it clockwise into the fixed position (approx. 30°).
- The cartridge is loosely held by the fixing bolts.
- Screw on the star handle moderately tight (approx. 15 Nm) by hand.

- Dispose of the dirty cartridge in a manner which does not pollute the environment.

[4] Check more frequently if large amounts of dust accumulate.

15.3 Replacing the cartridges (SFR-08)

- Interrupt the volume flow.
- Start a quick cleaning cycle (clean each cartridge twice).
- Take steps to prevent the complete unit from being switched on again by unauthorised persons.
- Wear protective clothing and equipment.
- After approximately 5 minutes (time required for the dust to settle), bang hard on the access door so that any accumulated dust drops down to the bottom.
- Open the access door (rectangular collectors: double-bit key, round collectors: use the key supplied).
- Remove any debris with a hand brush.
- Lay a grating inside the filter system if you need to climb inside the unit in order to replace the filter (the grating can be ordered from FG as an option).
- Press the cartridges against the filter plate.
- Unscrew the star handle.
- Pull the two cartridges and the double centre ring vertically down and remove them.

Dust collector with fixing bolts (optional):

- Press the cartridge against the filter plate.
- Unscrew the star handle.
- Pull the bottom cartridge and the double centre ring vertically down and remove them.
- Unscrew the top cartridge anti-clockwise from the fixed position (approx. 30°), then pull it vertically down and remove it.

- Check the freedom of movement of the rotating wing.
- Check the bottom bearing bush of the rotating wing.
- Replace the bearing bush in case of visible wear.
- Fit new, original cartridges.
- Screw on the star handle moderately tight (approx. 15 Nm) by hand.

Dust collector with fixing bolts (optional):

- Fit a new, original cartridge and screw it clockwise into the fixed position (approx. 30°).
- The cartridge is loosely held by the fixing bolts.
- Fit the bottom cartridge and the double centre ring.
- Screw on the star handle moderately tight (approx. 15 Nm) by hand.

- Dispose of the dirty cartridge in a manner which does not pollute the environment.

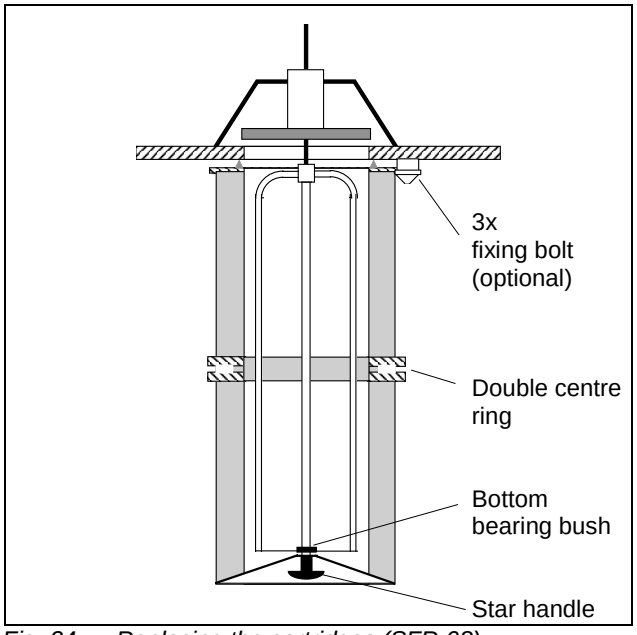


Fig. 34: Replacing the cartridges (SFR-08)

15.4 Replacing the cartridges

⚠ DANGER!

Explosion hazard!

⇨ Risk of injury to persons or damage to property.

- Check the conductivity between all components!
- Maximum permissible resistance: R < 10 Ω.
- Make sure earthing is provided on the site.

- Interrupt the volume flow.
- Start a quick cleaning cycle (clean each cartridge twice).
- Take steps to prevent the complete unit from being switched on again by unauthorised persons.
- Wear protective clothing and equipment.
- After approximately 5 minutes (time required for the dust to settle), bang hard on the access door so that any accumulated dust drops down to the bottom.
- Open the access door (rectangular collectors: double-bit key, round collectors: use the key supplied).
- Remove any debris with a hand brush.
- Lay a grating inside the filter system if you need to climb inside the unit in order to replace the filter (the grating can be ordered from FG as an option).
- Apply a hexagonal ring spanner to the bottom end cap of the cartridge (a/f 24).
- Unscrew the cartridge anti-clockwise.
- Fit a new, original cartridge onto the thread and screw it on loosely.
- Tighten with a torque spanner (approx. 6 Nm).
- Dispose of the dirty cartridge in a manner which does not pollute the environment.

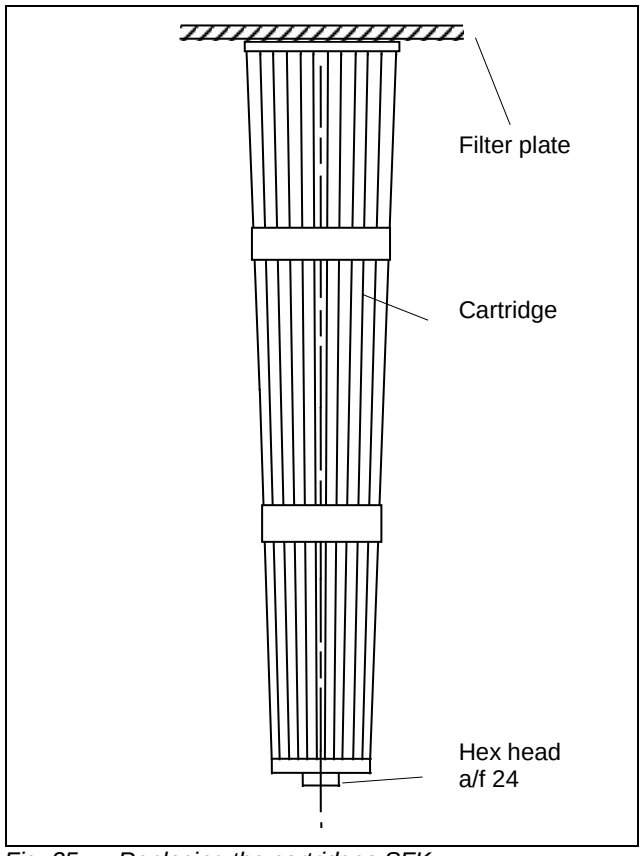


Fig. 35: Replacing the cartridges SFK

15.5 Replacing the cartridges (SFK 30) (replacement of the cartridges on the dirty air side)

DANGER!	
EX	**Explosion hazard!** ⇨ Risk of injury to persons or damage to property. • Check the conductivity between all components! • Maximum permissible resistance: R < 10 Ω. • Make sure earthing is provided on the site.

- Interrupt the volume flow.
- Start a quick cleaning cycle (clean each cartridge twice).
- Take steps to prevent the complete unit from being switched on again by unauthorised persons.
- Wear protective clothing and equipment.
- After approximately 5 minutes (time required for the dust to settle), bang hard on the access door so that any accumulated dust drops down to the bottom.
- Open the access door (rectangular collectors: double-bit key, round collectors: use the key supplied).
- Remove any debris with a hand brush.
- Lay a grating inside the filter system if you need to climb inside the unit in order to replace the filter (the grating can be ordered from FG as an option).
- Loosen the three hexagon socket-head bolts (a/f 6).
- Turn the adapter, then pull it down to remove it together with the cartridge.
- Fit the adapter over a new cartridge.
- Fasten the cartridges again in reverse order.

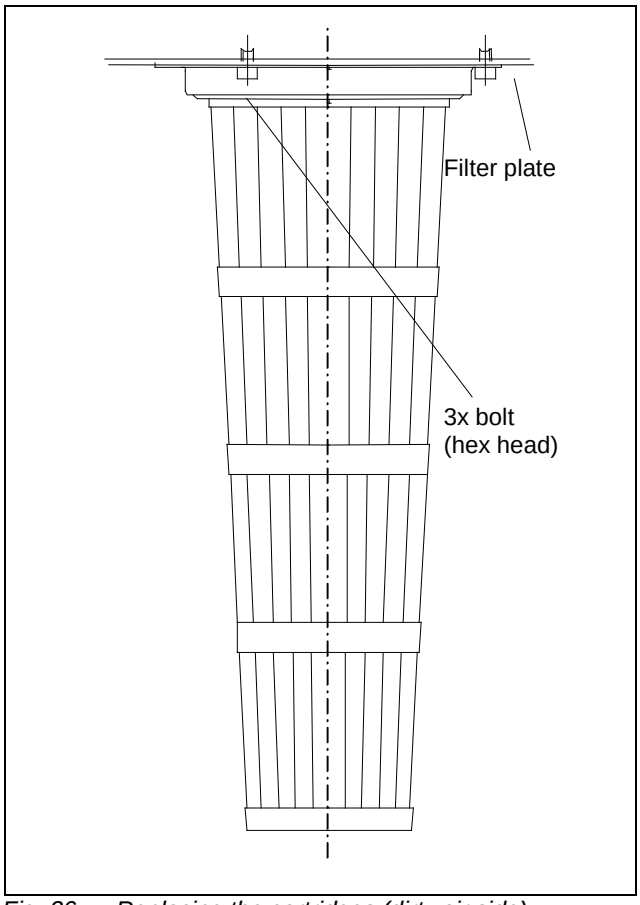


Fig. 36: Replacing the cartridges (dirty air side)

15.6 Replacing the cartridges (SFK-27) (replacement of the cartridges on the clean air side)

DANGER!	
EX	**Explosion hazard!** ⇨ Risk of injury to persons or damage to property. • Check the conductivity between all components! • Maximum permissible resistance: R < 10 Ω. • Make sure earthing is provided on the site.

- Interrupt the volume flow.
- Start a quick cleaning cycle (clean each cartridge twice).
- Take steps to prevent the complete unit from being switched on again by unauthorised persons.
- Wear protective clothing and equipment.
- Unscrew the star handles on the cover.
- Remove the cover.
- Disconnect the cleaning pipes.
- Remove the cleaning pipes.
- Remove the terminal strips on the cartridges.
- Remove the cartridges.
- Insert new cartridges.
- Fasten the cartridges again in reverse order.

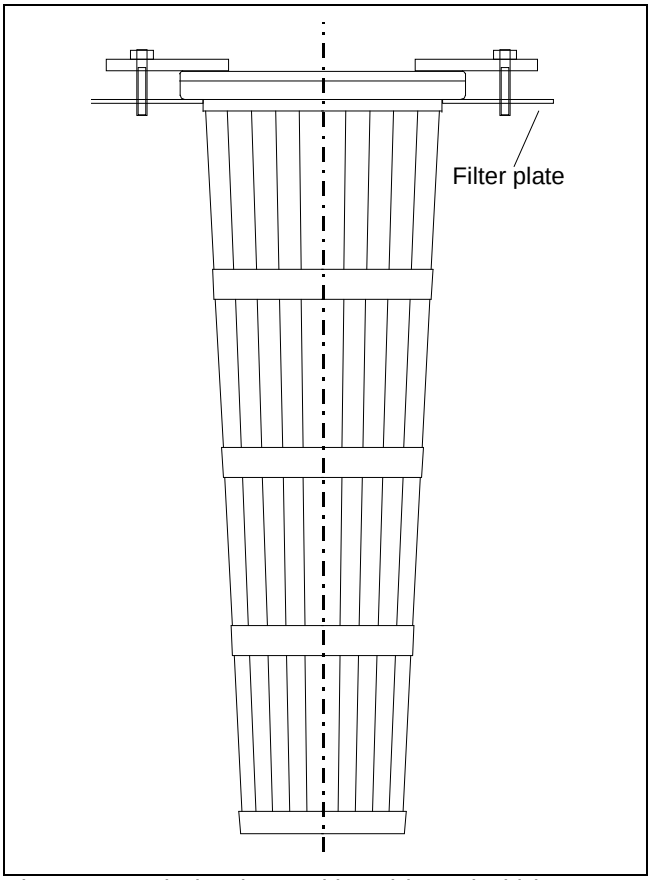


Fig. 37: Replacing the cartridges (clean air side)

15.7 Replacing Quick-Lock cartridges

15.7.1 To remove

- Interrupt the volume flow.

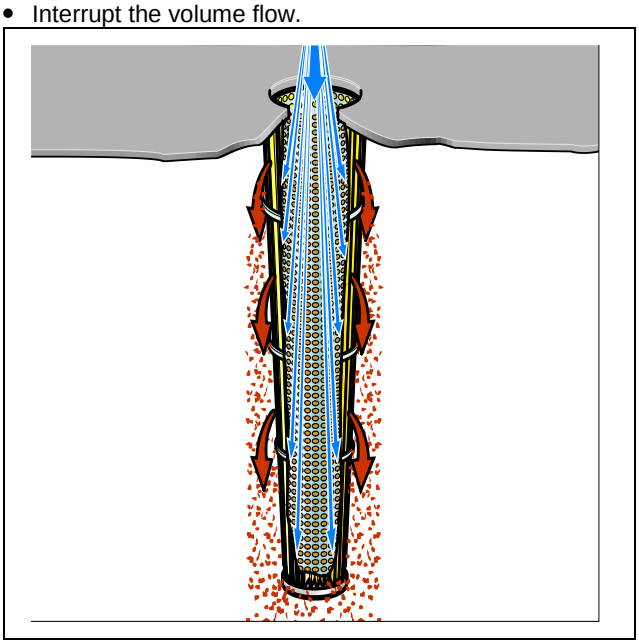


Fig. 38: Cleaning the cartridge

- Start a quick cleaning cycle (clean each cartridge twice).
- Take steps to prevent the complete unit from being switched on again by unauthorised persons.
- Wear protective clothing and equipment.

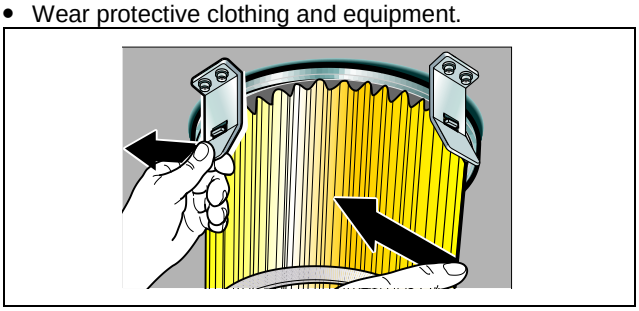


Fig. 39: Opening the spring clip

- Press the cartridge gently towards the spring clip.
- Release the cartridge manually.

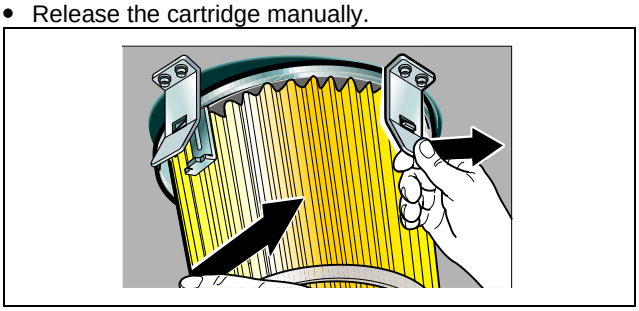


Fig. 40: Opening the spring clip

- Release the second spring clip in the same way.

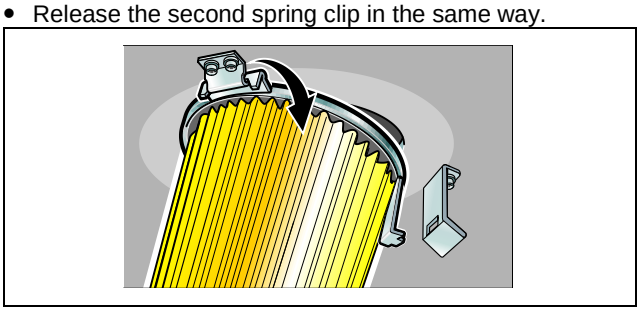


Fig. 41: Removing the cartridge from the hook

- Remove any debris with a hand brush.

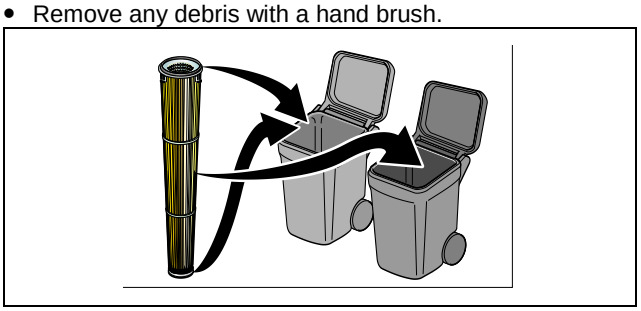


Fig. 42: Environmentally friendly disposal

- Dispose of the dirty cartridge in a manner which does not pollute the environment.
- Check the freedom of movement of the rotating wing.
- Check the bottom bearing bush of the rotating wing.
- Replace the bearing bush in case of visible wear.

15.7.2 To install

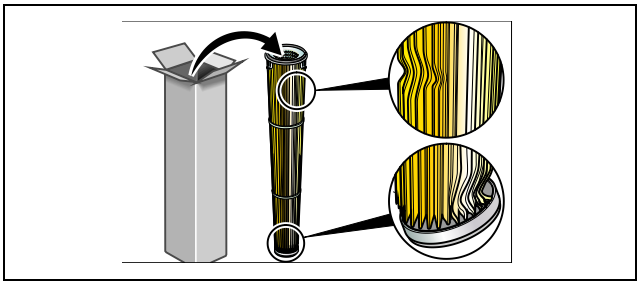


Fig. 43: Inspecting for damage

- Inspect the new cartridge for damage.

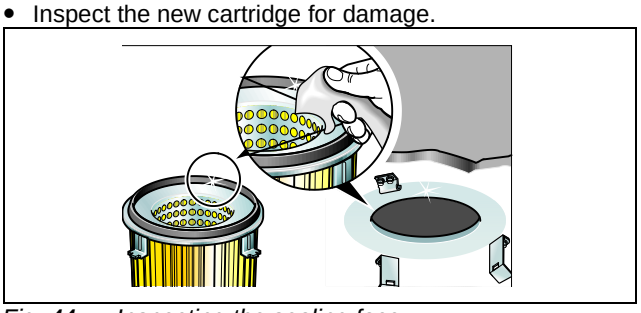


Fig. 44: Inspecting the sealing face

- Clean the sealing faces if necessary.

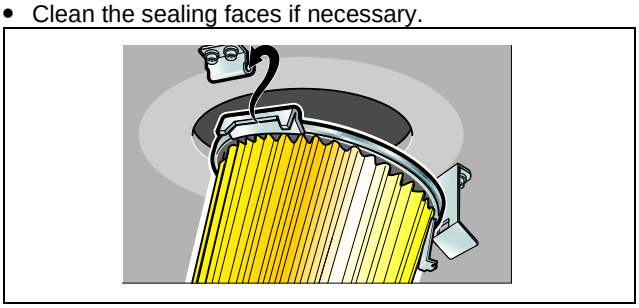


Fig. 45: Securing the cartridge

- Secure the cartridge to the hook.

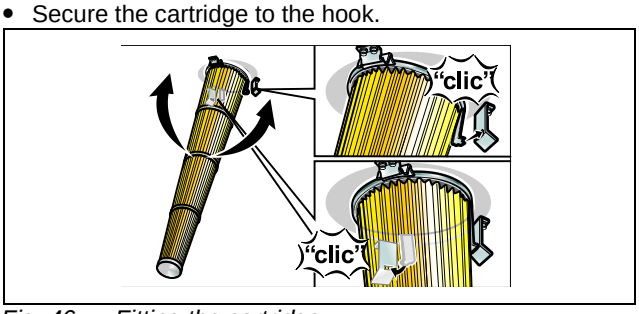


Fig. 46: Fitting the cartridge

- Fit the cartridge so that it latches audibly on both sides.

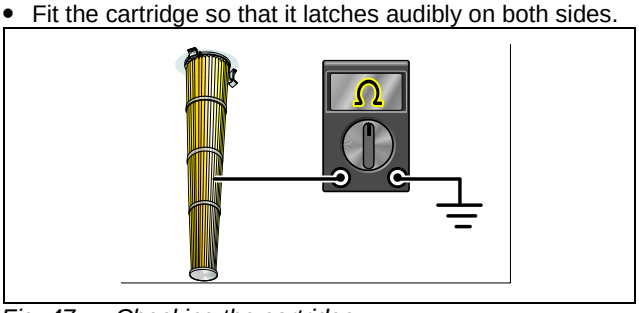


Fig. 47: Checking the cartridge

Check conductive cartridges (…Ti 07…/…Ti 08…) after they have been installed: R < 10^6 ohms.

16 Model code

Model code for dust collectors with selection examples

Collector, 1st + 2nd digits

SF Collector with air pressure cleaning

Collector, 3rd digit

K With conical cartridges
R With rotating wing
. With cylindrical cartridges
I Industrial vacuum cleaner with powerful fan

Cartridge type / mounting position

XX For details, see model code for cartridge types and mounting position

Number of cartridges

XXX Number of cartridges installed

Dimensions

XXXxXX Rectangular collector (length x width in dm)
DN-XXX Round collector (nominal diameter in cm)

Design, 1st + 2nd digits: Type

S1 Collector with bin
S2 Collector with bag
S3 Collector with drawer
S Filter with bottom
A Flanged body-type filter
E Intake filter

Design, 3rd digit: Optional equipment

. No optional equipment
V Fan
S Fan with silencer
W With cover

Housing material

V2 Stainless steel V2A (1.4301)
V4 Stainless steel V4A (1.4571)
VS Special stainless steel
AL Aluminium
SO Special
S1 Steel sheet RAL 7035
S2 Steel sheet RAL 7032
SL Steel sheet, special colour
SZ Steel sheet, zinc plated

Fans

XX Standard fans (see fan list, nos. 00 to 99)
.. Without fan
SO Special

Variations, 1st digit

S Standard design
K Customer design according to drawing
X Special design according to drawing (nos. 0 to 9)

Variations, 2nd digit

D Pressure resistant housing (p < -0.4 bar, p > 1 bar)
B With pressure relief (pressure burst resistant)
T Pressure burst resistant housing
A Basic design according to ATEX Directive 94/9/EC
E With earthing / electrostatic discharging
Z With cleaning controller
. Without cleaning controller / without variation type designation

Cartridge

***EXXXXXXXX** Cartridge, 1st filter stage

SFK	**-02**	**015**	**DN-071**	**S1V**	**S1**	**41**	**S**	**Z**	***E78345811**	**(Example of a round collector)**
SFR	**-08**	**018**	**016x16**	**S3S**	**S1**	**76**	**K**	**E**	***E79355447**	**(Example of a rectangular collector)**

Reserved for FG designation

Available for customer's designation from here

Cartridge type and mounting position							
Code	**Cartridge type**	**Cartridge diameter**	**Cartridge length**	**Alternative**	**Mounting position**	**Mounting**	**Comments**
xx	Designation unknown – product at project stage						
00	Other cartridge types				Vertical	Dirty section	
01	852 902	120	300	852 838	Vertical	Dirty section	RD72x5
02	852 903		600				
03	852 904		1000				
04	852 907	328	300		Vertical	Dirty section	Tie rod, RLD
05	852 908		600	852 782, 852 844			
06	852 909		1000				
07	852 030	328	1000	852 958	Vertical	Dirty section	Bayonet
08	2 x 852 908	328	1200	852 758, 852 782	Vertical	Dirty section	Tie rod, RLD
09	852 032	338					Quick-Lock
10	852 073	160	600		Vertical	Dirty section	RD100x4
11	852 054		1000				
12	852 052	328	600		Vertical	Dirty section	Quick-Lock
13	852 062		1000				
20	Other cartridge types				Vertical	Clean section	
21	852 829	328	300		Vertical	Clean section	
22	852 781		600				
23	852 943		983				
24					Vertical	Clean section	
25	852 903	120	600		Vertical	Clean section	With adapter
26	852 904		982				
27	852 931	160	1000	852 953	Vertical	Clean section	
30						Dirty section	With adapter
50	Other cartridge types				Horizontal	Dirty section	
51	852 902	120	300	852 838	Horizontal	Dirty section	RD72x5
52	852 903		600				
53	852 904		1000				
54	852 073	160	600		Horizontal	Dirty section	RD100x4
55	852 054		1000				
61	852 907	328	300		Horizontal	Dirty section	Tie rod
62	852 908		600				
63	852 909		1000				
64							
65	2 x 852 908	328	1200		Horizontal	Dirty section	Tripod
70	Other cartridge types				Horizontal	Clean section	
99	Other variations						

Examples:

SFR-08 018 016x16 S3S S1 76 KE*E79355447	SFR unit with AE-2E,18 type 852 908 cartridges, rectangular 1600x1600 mm footprint, dust drawer, silencer, powder coated RAL 7035, VR 76 fan, customer design / Ex protection, cartridge material no. 79355447
SFK-27 021 010x16 S3S S1 65 SZ*E78386559	SFK unit with conical cartridges, 21 type 852 931 cartridges, rectangular 1000x1600 mm footprint, dust drawer, silencer, powder coated RAL 7035, VR 65 fan, standard design / time control, cartridge material no. 78386559
SFK-02 015 DN-073 A.W V4 25 SD*E78345811	SFK unit with conical cartridges, 15 type 852 903 cartridges, round DN 730 mm, flanged body-type filter, weather protection cover, stainless steel 1.4401 or equivalent, VR 25 fan, standard design / pressure resistant, cartridge material no. 78345811
SFK-03 008 DN-053 S6V V2 .. SB*E79355645	SFK unit with conical cartridges, 8 type 852 904 cartridges, round DN 530 mm, flanged body-type filter, weather protection cover, stainless steel 1.4301 or equivalent, without fan, standard design / rupture disc, cartridge material no. 79355645

17 Cartridges used

Enter the ordering data in the table (refer to the contract documentation, offer / order confirmation).

No.	Qty.	Designation	FG Mat. No.	Material
1				
2				
3				
4				

Cartridges changed:

Date:		Changed by:	

No.	Qty.	Designation	FG Mat. No.	Material
1				
2				
3				
4				

Cartridges changed:

Date:		Changed by:	

No.	Qty.	Designation	FG Mat. No.	Material
1				
2				
3				
4				

Cartridges changed:

Date:		Changed by:	

No.	Qty.	Designation	FG Mat. No.	Material
1				
2				
3				
4				

18 Declaration of incorporation

As defined by the EC Machinery Directive

EU – Einbauerklärung
EU Declaration of incorporation
Déclaration relative au montage UE

Industrial Air

Der Hersteller The manufacturer Le producteur	Filtration Group GmbH Schleifbachweg 45 74613 Öhringen Telefon 07941 6466-0 Telefax 07941 6466-429

erklärt hiermit, dass das folgende Produkt
hereby declares that the following product
déclare par la présente que le produit suivant

Produktbezeichnung: **Product designation:** **Désignation du produit :**	**Entstaubungsgerät** **Dust collector** **Dépoussiéreur**
Typenbezeichung: **Type designation:** **Désignation du type :**	**SFR/SF./SFK/RFK/RF./AFK/NFK/NF./NFR**
Funktionsbeschreibung: **Machine description:** **Description du fonctionnement :**	**Filtration von Feststoffen** **Filtration of solids** **Filtration de solides**

den in der Anlage dargestellten grundlegenden Anforderungen der Richtlinie 2006/42/EU entspricht.
conforms to the essential requirements of the Machinery Directive 2006/42/EU pursuant to the Annex.
répond aux exigences fondamentales de la directive 2006/42/UE, décrites en annexe.

Die unvollständige Maschine darf erst dann in Betrieb genommen werden, wenn festgestellt wurde, dass die Maschine, in die die unvollständige Maschine eingebaut werden soll, den Bestimmungen der Richtlinie 2006/42/EU über Maschinen entspricht.
The partly completed machinery must not be put into service until the relevant machinery into which this partly completed machinery is to be incorporated has been declared in conformity with the Machinery Directive 2006/42/EU.
La machine incomplète ne doit être mise en service qu'après avoir déterminé que la machine, dans laquelle la machine incomplète doit être montée, correspond aux dispositions de la directive machines 2006/42/UE.

Folgende harmonisierten Normen wurden angewandt:
The following harmonised standards have been used: **DIN EN ISO 12100:2011-03, DIN EN ISO 4414:2011-04**
Les normes harmonisées ci-dessous ont été appliquées :

Der Hersteller verpflichtet sich, die speziellen Unterlagen zur unvollständigen Maschine, einzelstaatlichen Stellen auf Verlangen schriftlich zu übermitteln. Die zur Maschine gehörenden speziellen technischen Unterlagen nach Anhang VII Teil B wurden erstellt.
The manufacturer undertakes to transmit any specific documentation on the partly completed machinery to the appropriate national authorities in writing on request. All specific technical documentation belonging to the machinery has been compiled pursuant to Annex VII Section B.
Le fabricant s'engage à transmettre les documents spécifiques à la machine incomplète par écrit aux administrations nationales respectives sur leur demande. Les documents techniques spécifiques selon Annexe VII partie B faisant partie de la machine ont été établis.

Dokumentationsverantwortlicher/Abteilung: Responsible for documentation/department: Responsable de la documentation/Service :	Filtration Group GmbH Schleifbachweg 45 74613 Öhringen
Unterzeichner: Signatory: Signataire :	Wolfram Zuck Dipl.-Ing. (FH) Industrial Engineering Managing Director, Plant Manager Öhringen

Öhringen,

19.06.2017 — Datum/Date

U. Zuck — Unterschrift/Signature/Signature

Anlage/Annex/Annexe — 3 Seiten/pages/pages

19 Declaration of conformity

EU – Konformitätserklärung
EU declaration of conformity
Déclaration de conformité UE

Der Hersteller The manufacturer Le producteur	Filtration Group GmbH Schleifbachweg 45 74613 Öhringen Telefon 07941 6466-0 Telefax 07941 6466-429

erklärt hiermit, dass das folgende Produkt
hereby declares that the following product
déclare par la présente que le produit suivant

Produktbezeichnung: **Product designation:** **Désignation du produit :**	**Entstaubungsgerät** **Dust collector** **Dépoussiéreur**
Typenbezeichung: **Type designation:** **Désignation du type :**	**SFR/SF./SFK/RFK/RF./AFK/NFK/NF./NFR**
Funktionsbeschreibung: **Machine description:** **Description du fonctionnement :**	**Filtration von Feststoffen** **Filtration of solids** **Filtration de solides**

allen einschlägigen Bestimmungen der Richtlinie 2006/42/EU über Maschinen entspricht. Die Maschine entspricht allen Bestimmungen der Richtlinie 2014/35/EU über elektrische Betriebsmittel und der Richtlinie 2014/30/EU über elektromagnetische Verträglichkeit.
conforms to all relevant provisions of the Machinery Directive 2006/42/EU. The machinery conforms to all provisions of the Low Voltage Directive 2014/35/EU and of the Electromagnetic Compatibility Directive 2014/30/EU.
répond à toutes les dispositions applicables de la directive machines 2006/42/UE. La machine répond à toutes les dispositions de la directive 2014/35/UE relative au matériel électrique et de la directive 2014/30/UE relative à la compatibilité électromagnétique.

Folgende harmonisierten Normen wurden angewandt:
The following harmonised standards have been used: **DIN EN ISO 12100:2011-03, DIN EN ISO 4414:2011-04**
Les normes harmonisées ci-dessous ont été appliquées :

Dokumentationsverantwortlicher/Abteilung: Responsible for documentation/department: Responsable de la documentation/Service :	Filtration Group GmbH Schleifbachweg 45 74613 Öhringen
Unterzeichner: Signatory: Signataire :	Wolfram Zuck Dipl.-Ing. (FH) Industrial Engineering Managing Director, Plant Manager Öhringen

Öhringen,

19.06.2017
Datum/Date/Date

Unterschrift/Signature/Signataire

20 Declaration of conformity

As defined by the ATEX Directive

EU – Konformitätserklärung
EU declaration of conformity
Déclaration de conformité UE

FG Industrial Air

Der Hersteller The manufacturer Le producteur	Filtration Group GmbH Schleifbachweg 45 74613 Öhringen Telefon 07941 6466-0 Telefax 07941 6466-429

erklärt hiermit, dass das folgende Produkt
hereby declares that the following product
déclare par la présente que le produit suivant

Produktbezeichnung: **Product designation:** **Désignation du produit :**	**Entstaubungsgerät** **Dust collector** **Dépoussiéreur**
Typenbezeichung: **Type designation:** **Désignation du type :**	**SFR/SF./SFK/RFK/RF./AFK/NFK/NF./NFR**
Funktionsbeschreibung: **Machine description:** **Description du fonctionnement :**	**Filtration von Feststoffen** **Filtration of solids** **Filtration de solides**

allen wesentlichen Schutzanforderungen der Ex- Richtlinie entspricht.
conforms to all the basic requirements of the Ex-directive.
répond à toutes les exigences essentielles de la Ex-directive .

Ex-Richtlinie 2014/34/EU

Unterzeichner:
Signatory:
Signataire :

Wolfram Zuck
Dipl.-Ing. (FH) Industrial Engineering
Managing Director, Plant Manager Öhringen

Öhringen, 19.06.2017
Datum/Date/Date

Unterschrift/Signature/Signataire

21 Manufacturer’s declaration for pressure vessels

EU – Herstellererklärung
EU declaration of the manufacturer
Déclaration du fabricant UE

Der Hersteller
The manufacturer
Le producteur

Filtration Group GmbH
Schleifbachweg 45
74613 Öhringen
Telefon 07941 6466-0
Telefax 07941 6466-429

erklärt hiermit, dass das folgende Produkt
hereby declares that the following product
déclare par la présente que le produit suivant

Produktbezeichnung:
Product designation:
Désignation du produit :
Druckluftbehälter
Pressure tank
Récipient air comprimé

Typenbezeichnung:
Type designation:
Désignation du type :
DRUCKBE-01 - 08

der einschlägigen Bestimmung der Richtlinie 2014/29/EU einfache Druckbehälter entspricht.
conforms to the relevant provisions of the 2014/29/EU simple pressure tank.
répond les dispositions applicables 2014/29/UE .

Folgende harmonisierten Normen wurden angewandt:
The following harmonised standards have been used:
Les normes harmonisées ci-dessous ont été appliquées :
DIN EN 286-1

Unterzeichner:
Signatory:
Signataire :
Wolfram Zuck
Dipl.-Ing. (FH) Industrial Engineering
Managing Director, Plant Manager Öhringen

Öhringen, 14.06.2017
Datum/Date/Date

Unterschrift/Signature/Signataire

22 Declaration of conformity for pressure vessels

EU – Konformitätserklärung
EU declaration of conformity
Déclaration de conformité UE

Der Hersteller
The manufacturer
Le producteur

Filtration Group GmbH
Schleifbachweg 45
74613 Öhringen
Telefon 07941 6466-0
Telefax 07941 6466-429

erklärt hiermit, dass das folgende Produkt
hereby declares that the following product
déclare par la présente que le produit suivant

Produktbezeichnung: **Druckluftbehälter**
Product designation: **Pressure tank**
Désignation du produit : **Récipient air comprimé**
Typenbezeichung:
Type designation: **DRUCKBE-09 - 32**
Désignation du type :

der einschlägigen Bestimmung der Richtlinie 2014/29/EU einfache Druckbehälter entspricht.
conforms to the relevant provisions of the 2014/29/EU simple pressure tank.
répond les dispositions applicables 2014/29/UE .

Folgende harmonisierten Normen wurden angewandt:
The following harmonised standards have been used: **DIN EN 286-1**
Les normes harmonisées ci-dessous ont été appliquées :

Dokumentationsverantwortlicher/Abteilung:
Responsible for documentation/department:
Responsable de la documentation/Service :

Filtration Group GmbH
Schleifbachweg 45
74613 Öhringen

Unterzeichner:
Signatory:
Signataire :

Wolfram Zuck
Dipl.-Ing. (FH) Industrial Engineering
Managing Director, Plant Manager Öhringen

Öhringen, 19.06.2017
Datum/Date/Date

Unterschrift/Signature/Signataire

Anlage zur Einbauerklärung gemäß Richtlinie 2006/42/EU für Entstaubungsgeräte
Annex to the Declaration of Incorporation pursuant to the Machinery Directive 2006/42/EU for dust collectors
Annexe à la déclaration de montage selon la directive 2006/42/UE pour les dépoussiéreurs

Beschreibung der grundlegenden Sicherheits- und Gesundheitsschutzanforderungen (soweit zutreffend) gemäß 2006/42/EU, Anhang 1, die zur Anwendung kommen und eingehalten wurden.
List of the essential health and safety requirements (where applicable) pursuant to 2006/42/EU, Annex 1, applied and fulfilled.
Description des exigences fondamentales relatives à la sécurité et à la protection de la santé (si applicables) selon 2006/42/UE, annexe 1, appliquées et respectées.

Grundlegende Anforderung **Essential requirements** **Exigence fondamentale**	**Erfüllt** **Fulfilled** **Remplie**
Grundsätze für die Integration der Sicherheit Principles of safety integration Principes d'intégration de la sécurité	ja yes oui
Materialien und Produkte Materials and products Matériaux et produits	ja yes oui
Konstruktion der Maschine im Hinblick auf die Handhabung Design of machinery to facilitate its handling Construction de la machine au regard de sa manipulation	ja yes oui
Steuerungen und Befehlseinrichtungen Control systems Commandes et dispositifs de commande	nein no non
Risiko des Verlusts der Standsicherheit Risk of loss of stability Risque de perte de la stabilité statique	ja yes oui
Bruchrisiko beim Betrieb Risk of break-up during operation Risque de rupture en fonctionnement	ja yes oui
Risiken durch herabfallende oder herausgeschleuderte Gegenstände Risks due to falling or ejected objects Risques dus à la chute ou à l'éjection d'objets	ja yes oui
Risiken durch Oberflächen, Kanten und Ecken Risks due to surfaces, edges or angles Risques dus aux surfaces, arêtes et angles	ja yes oui
Risiken durch Änderung der Verwendungsbedingungen Risks related to variations in operating conditions Risques dus à la modification des conditions d'utilisation	ja yes oui
Risiken durch bewegliche Teile Risks related to moving parts Risques dus à des parties mobiles	ja yes oui
Wahl der Schutzeinrichtung gegen Risiken durch bewegliche Teile Choice of protection against risks arising from moving parts Choix du dispositif de protection contre les risques dus à des parties mobiles	ja yes oui
Risiko unkontrollierter Bewegungen Risks of uncontrolled movements Risque de mouvements incontrôlés	ja yes oui
Anforderungen an Schutzeinrichtungen Required characteristics of guards and protective devices Exigences relatives aux dispositifs de protection	nein no non
Elektrische Energieversorgung Electricity supply Alimentation électrique	ja yes oui
Statische Elektrizität Static electricity Electricité statique	ja yes oui

Nichtelektrische Energieversorgung Energy supply other than electricity Alimentation en énergie non-électrique	ja yes oui
Montagefehler Errors of fitting Erreurs de montage	ja yes oui
Extreme Temperaturen Extreme temperatures Températures extrêmes	ja yes oui
Brand Fire Incendie	ja yes oui
Explosion Explosion Explosion	ja yes oui
Lärm Noise Bruit	ja yes oui
Vibrationen Vibrations Vibrations	ja yes oui
Strahlung Radiation Rayonnement	ja yes oui
Strahlung von außen External radiation Rayonnement depuis l'extérieur	ja yes oui
Emission gefährlicher Werkstoffe und Substanzen Emissions of hazardous materials and substances Emission de substances et matériaux dangereux	ja yes oui
Risiko, in eine Maschine eingeschlossen zu werden Risk of being trapped in a machine Risque de se faire enfermer dans une machine	nein no non
Ausrutsch-, Stolper- und Sturzrisiko Risk of slipping, tripping or falling Risque de dérapage, de trébuchement et de chute	nein no non
Blitzschlag Lightning Foudre	nein no non
Wartung der Maschine Machinery maintenance Entretien de la machine	nein no non
Zugang zu den Bedienungsständen und den Eingriffspunkten für die Instandhaltung Access to operating positions and servicing points Accès aux postes de commande et aux points d'intervention pour la maintenance	nein no non
Trennung von den Energiequellen Isolation of energy sources Séparation des sources d'énergie	nein no non
Eingriffe des Bedienungspersonals Operator intervention Interventions des opérateurs	ja yes oui
Reinigung innen liegender Maschinenteile Cleaning of internal parts Nettoyage de parties internes de la machine	nein no non
Informationen und Warnhinweise an der Maschine Information and warnings on the machinery Informations et avertissements sur la machine	ja yes oui
Warnung vor Restrisiken Warning of residual risks Avertissement quant aux risques résiduels	ja yes oui
Kennzeichnung der Maschinen Marking of machinery Marquage des machines	nein no non

Betriebsanleitung Instructions Mode d'emploi	ja yes oui
Nahrungsmittelmaschinen und Maschinen für kosmetische oder pharmazeutische Erzeugnisse Foodstuffs machinery and machinery for cosmetics or pharmaceutical products Machines pour denrées alimentaires et machines pour produits cosmétiques ou pharmaceutiques	nein no non
Handgehaltene und/oder handgeführte tragbare Maschinen Portable hand-held and/or hand-guided machinery Machines tenues à la main et/ou portables guidées à la main	ja yes oui

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Your Contact

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D-73760 Ostfildern

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