



Translation of original instructions with installation instructions
Automatic metal-edge filters with radial scraper cleaning
AF 73 G3/AF 93 G3

Material No. of Instruction Manual
70308318



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2 General safety instructions

2.1 Safety instructions for installation and operating personnel

This Instruction Manual contains important safety instructions 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 system:

- ⇒ Failure of critical functions of the machine or system 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 the Instruction Manual carefully.
- Make sure that installation and operating personnel are adequately trained.
- Make sure that the contents of the Instruction Manual are fully understood by the responsible persons.
- Define areas of responsibility and competence.
- Prepare a maintenance schedule.

During operation of the system:

- Keep the Instruction Manual handy at the place where the system is used.
- Heed the safety instructions. Always operate the machine/system 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 <ul style="list-style-type: none"> ⇒ 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.
CAUTION! (without a symbol)
Potentially dangerous situation! ⇒ Non-observance can result in property damage.

2.4 Other symbols used

	Danger from high voltage
	Danger information about explosion protection
	Information about environmental protection
	Wear protective clothing!
	Wear goggles!
	Wear a respirator!
	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

Aerosol:

Distribution of minute liquid droplets (or solid particles) in a gas.

Agglomerate:

Structure made up of several small particles which have formed a ball (conglomerated) as a result of physical forces.

Cartridge (coiled):

Cylindrical structure consisting of a core element with triangular wires wound or welded onto it. The suspension that must be filtered flows inward. Solids are retained on the outer surface of the cartridge.

Cleaning:

The coiled cartridge is turned and cleaned by a stationary scraper.

Concentrate:

Quantity of residues enriched with solids. Is discharged from the filter periodically. Further treatment may be necessary, depending on the application.

Cooling lubricant:

Cooling lubricant acc. to DIN 51385.

Differential pressure (delta p):

Difference between the pressure on the dirty side and the clean side.

Draining:

The drain valve is opened. The solids that have collected in the collection cone are discharged.

Filter cake:

Layer that is built up by the solids retained on the surface of the coiled cartridge.

Filtered fluid:

Substance that is filtered.

Filtration mode:

The metal-edge filter operates normally and the drain valve is closed.

Homogenisation:

A system of substances is given a uniform composition.

Initial differential pressure:

Differential pressure at the start of the filtration process (when the coiled cartridge is "clean").

Precontrol:

5/2-way magnetic valves actuated by the controller, which switch pneumatic control valves.

Siphon:

U-shaped pipe. A siphon cannot be discharged without a valve.

Suspension (raw suspension):

System of substances that must be filtered, generally consisting of solids in a liquid.

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 Instruction Manual

FG Mat. No.: 70308318
Date: 10.12.17
Revision status: 07

4.3 ATEX type key



II	2	G	T3
1.	2.	3.	4.
1.	II	Valid for use above ground	
2.	Use in:	Zone 1	
3.	Atmosphere	2	
	G = Gas	G	
4.	T3 = The maximum surface temperature on the filtration device is 200°C.		

(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 other purposes without prior consultation with the manufacturer.
- Use in potentially explosive atmospheres, unless explicitly mentioned in the contract documentation.
- Use with smouldering, burning or adhesive particles.
- Use with highly explosive dusts (e.g. aluminium dust, explosives, etc.).

⚠ CAUTION!

This FG metal-edge filter is only allowed to be used in accordance with the operating conditions specified in the contract documentation and in the Instruction Manual. 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.
- Continuous operation of the cleaning line (leads to increased wear with abrasive media).
- Cleaning cycles shorter than 5 minutes (leads to increased wear).
- Pressure surges greater than 4 bar.
- Particle concentrations greater than 3000 mg/l (contact the manufacturer if necessary).

FG metal-edge filters are designed for filtering liquids or pastes up to a maximum viscosity of 500,000 mPas and can be cleaned without interrupting operation. They are cleaned either manually or automatically.

Main applications:

- Cooling lubricant filtration (section 13)
- Product filtration
- Preseparation in a filter cascade
- Protective filtration before or after certain process steps
- Process filtration
- Destruction of unwanted agglomerates

6 Functional description

6.1 Process principle of the AF 73 G3/AF 93 G3

Filtration

A triangular wire is wound immovably on a core element. The gap width and thus the filter rating are determined by the threaded pitch. The suspension flows inward through the coiled cartridge. Particles settle on the outside of the cartridge. There is a significant increase in the cross-section downstream of the narrowest gap due to the triangular geometry. Clogging is practically eliminated as a result.

Automatic cleaning

The particles that settle on the coiled cartridge cause the differential pressure between the dirty side and the clean side to increase.

If this pressure difference exceeds a (settable) limit value, a cleaning process is started. The cartridge begins to turn. The filter cake is detached from the cartridge by the scraper.

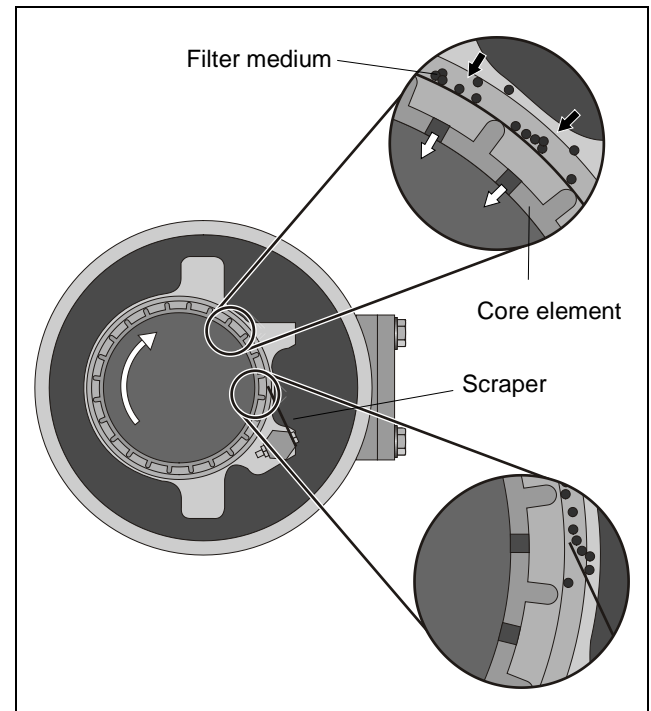


Fig. 1: Separating and cleaning principle on the coiled cartridge

To start a cleaning process

A cleaning process can be started in the following ways:

- Manually
- By means of a differential pressure switch
- By means of a time switch
- By means of a higher-level controller

6.2 Main components of the AF 73 G3/AF 93 G3

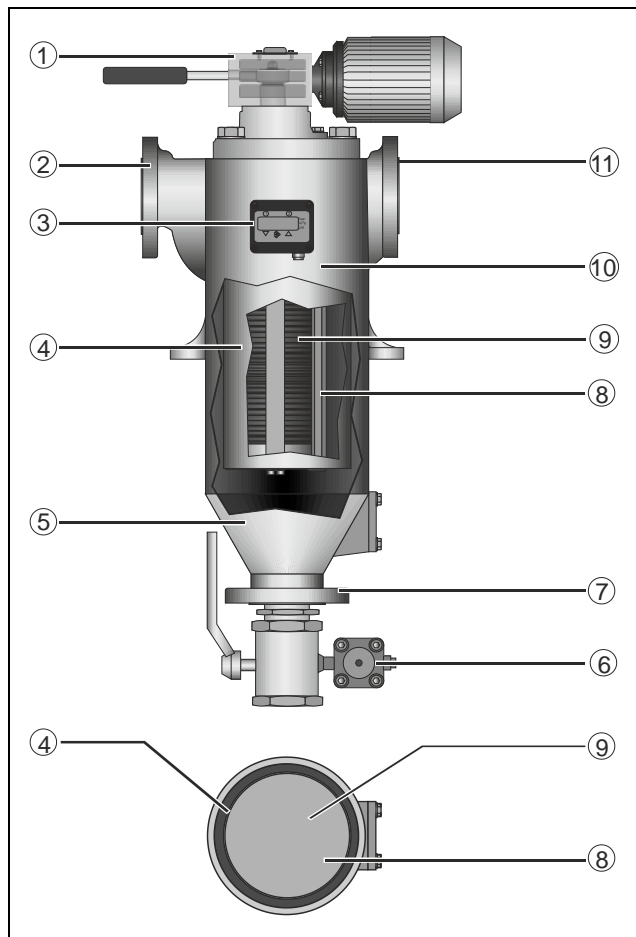


Fig. 2: Diagram of the main components

1	Electric or manual cleaning drive
2	Inlet connection
3	Differential gauge/switch (optional)
4	Preseparator tube (AF 93 G3 only)
5	Collection cone
6	Electro-pneumatic or manual drain valve (optional)
7	Drain opening
8	Scraper
9	Coiled cartridge
10	Filter housing
11	Outlet connection

6.3 Functional principle of the AF 73 G3/AF 93 G3

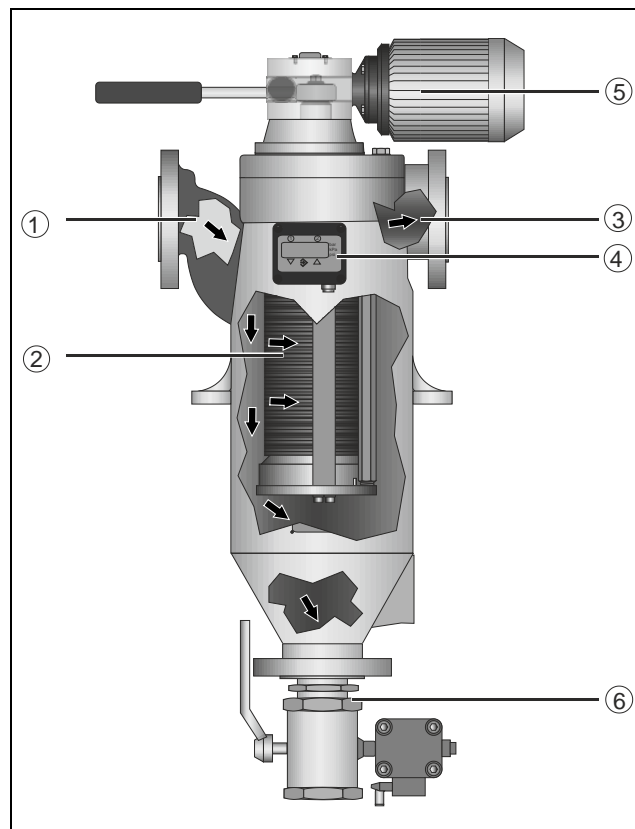


Fig. 3: Functional principle of a metal-edge filter

1

The suspension flows tangentially into the metal-edge filter (the AF 93 is designed with gravity preseparation in the form of a preseparator tube).

2

The suspension flows through the coiled cartridge. The particles contained in the suspension settle on the outside of the cartridge.

3

The filtered fluid enters the clean side and exits the filter.

4

A cleaning process is started when the maximum differential pressure is reached (if an optional differential gauge/switch is installed) or after a preset time.

5


The cartridge is turned either by the gear motor or manually by means of a ratchet. The separated particles are detached by the stationary scraper. The filtration process is not interrupted.

6

The enriched particles in the collection cone can be discharged periodically either manually or automatically.

7 Technical data


7.1 General data of the AF 73 G3/AF 93 G3 (without options)

	The information indicated on the name-plate is binding.
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Electrical energy consumption*: 230 V/400 V
Peak noise emission: < 70 dB(A)
Dimensions: See data sheet
Min. dismantling clearance above filter: 515 mm
Total dry weight: 72 kg
Max. operating temperature: 180°C
Max. permissible operating pressure up to 100°C: 25 bar
Max. perm. differential pressure of coiled cartridge: 30 bar
Max. perm. differential press. of welded cartridge: 10 bar

*See also name-plate on gear motor

7.2 Order-specific data

	The name-plate is rendered invalid if the coiled cartridge or the filter insert are modified. <ul style="list-style-type: none">• Please request a new name-plate from the manufacturer.
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This data is order-specific and can be taken from the name-plate.

7.2.1 Name-plate for filter with Ex protection

FGC.com Made in Germany		Product Group: G3 S111/100/200/300/400/500/600/700/800/900/1000/1200/1500/1800/2000/2500/3000/3500/4000/4500/5000/5500/6000/6500/7000/7500/8000/8500/9000/9500/10000/11000/12000/13000/14000/15000/16000/17000/18000/19000/20000/21000/22000/23000/24000/25000/26000/27000/28000/29000/30000/31000/32000/33000/34000/35000/36000/37000/38000/39000/40000/41000/42000/43000/44000/45000/46000/47000/48000/49000/50000/51000/52000/53000/54000/55000/56000/57000/58000/59000/60000/61000/62000/63000/64000/65000/66000/67000/68000/69000/70000/71000/72000/73000/74000/75000/76000/77000/78000/79000/80000/81000/82000/83000/84000/85000/86000/87000/88000/89000/90000/91000/92000/93000/94000/95000/96000/97000/98000/99000/100000/101000/102000/103000/104000/105000/106000/107000/108000/109000/110000/111000/112000/113000/114000/115000/116000/117000/118000/119000/120000/121000/122000/123000/124000/125000/126000/127000/128000/129000/130000/131000/132000/133000/134000/135000/136000/137000/138000/139000/140000/141000/142000/143000/144000/145000/146000/147000/148000/149000/150000/151000/152000/153000/154000/155000/156000/157000/158000/159000/160000/161000/162000/163000/164000/165000/166000/167000/168000/169000/170000/171000/172000/173000/174000/175000/176000/177000/178000/179000/180000/181000/182000/183000/184000/185000/186000/187000/188000/189000/190000/191000/192000/193000/194000/195000/196000/197000/198000/199000/200000/201000/202000/203000/204000/205000/206000/207000/208000/209000/210000/211000/212000/213000/214000/215000/216000/217000/218000/219000/220000/221000/222000/223000/224000/225000/226000/227000/228000/229000/230000/231000/232000/233000/234000/235000/236000/237000/238000/239000/240000/241000/242000/243000/244000/245000/246000/247000/248000/249000/250000/251000/252000/253000/254000/255000/256000/257000/258000/259000/260000/261000/262000/263000/264000/265000/266000/267000/268000/269000/270000/271000/272000/273000/274000/275000/276000/277000/278000/279000/280000/281000/282000/283000/284000/285000/286000/287000/288000/289000/290000/291000/292000/293000/294000/295000/296000/297000/298000/299000/300000/301000/302000/303000/304000/305000/306000/307000/308000/309000/310000/311000/312000/313000/314000/315000/316000/317000/318000/319000/320000/321000/322000/323000/324000/325000/326000/327000/328000/329000/330000/331000/332000/333000/334000/335000/336000/337000/338000/339000/340000/341000/342000/343000/344000/345000/346000/347000/348000/349000/350000/351000/352000/353000/354000/355000/356000/357000/358000/359000/360000/361000/362000/363000/364000/365000/366000/367000/368000/369000/370000/371000/372000/373000/374000/375000/376000/377000/378000/379000/380000/381000/382000/383000/384000/385000/386000/387000/388000/389000/390000/391000/392000/393000/394000/395000/396000/397000/398000/399000/400000/401000/402000/403000/404000/405000/406000/407000/408000/409000/410000/411000/412000/413000/414000/415000/416000/417000/418000/419000/420000/421000/422000/423000/424000/425000/426000/427000/428000/429000/430000/431000/432000/433000/434000/435000/436000/437000/438000/439000/440000/441000/442000/443000/444000/445000/446000/447000/448000/449000/450000/451000/452000/453000/454000/455000/456000/457000/458000/459000/460000/461000/462000/463000/464000/465000/466000/467000/468000/469000/470000/471000/472000/473000/474000/475000/476000/477000/478000/479000/480000/481000/482000/483000/484000/485000/486000/487000/488000/489000/490000/491000/492000/493000/494000/495000/496000/497000/498000/499000/500000/501000/502000/503000/504000/505000/506000/507000/508000/509000/510000/511000/512000/513000/514000/515000/516000/517000/518000/519000/520000/521000/522000/523000/524000/525000/526000/527000/528000/529000/530000/531000/532000/533000/534000/535000/536000/537000/538000/539000/540000/541000/542000/543000/544000/545000/546000/547000/548000/549000/550000/551000/552000/553000/554000/555000/556000/557000/558000/559000/560000/561000/562000/563000/564000/565000/566000/567000/568000/569000/570000/571000/572000/573000/574000/575000/576000/577000/578000/579000/580000/581000/582000/583000/584000/585000/586000/587000/588000/589000/590000/591000/592000/593000/594000/595000/596000/597000/598000/599000/600000/601000/602000/603000/604000/605000/606000/607000/608000/609000/610000/611000/612000/613000/614000/615000/616000/617000/618000/619000/620000/621000/622000/623000/624000/625000/626000/627000/628000/629000/630000/631000/632000/633000/634000/635000/636000/637000/638000/639000/640000/641000/642000/643000/644000/645000/646000/647000/648000/649000/650000/651000/652000/653000/654000/655000/656000/657000/658000/659000/660000/661000/662000/663000/664000/665000/666000/667000/668000/669000/670000/671000/672000/673000/674000/675000/676000/677000/678000/679000/680000/681000/682000/683000/684000/685000/686000/687000/688000/689000/690000/691000/692000/693000/694000/695000/696000/697000/698000/699000/700000/701000/702000/703000/704000/705000/706000/707000/708000/709000/710000/711000/712000/713000/714000/715000/716000/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9.1 Installation

⚠ DANGER!



Explosion hazard!
Risk of injury to persons or damage to property.
Check the conductivity between all components!
Note the maximum permissible resistance:
 $R < 10 \Omega$.
Make sure that earthing is provided by the customer.



It must be possible to remove the filter insert in order to carry out maintenance work.

- Prepare a suitable seat on which to mount the filter (e.g. supports, see data sheet).
- Be sure to allow the required clearance for dismantling and discharging (see data sheet).
- Lift up the metal-edge filter by the eyebolts using suitable hoisting gear and remove it from the packaging.

⚠ DANGER!



If the filter topples over
Risk of injury to persons or damage to property.
Secure the filter seat firmly in position.

- Screw the metal-edge filter to the prepared seat.
- Remove the caps from the connections.
- Connect the pipes.

Pressure relief

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

9.2 Mechanical installation

⚠ CAUTION!

High pressure at the drain valve!

- ⇒ Risk of injury to persons or damage to property
- Depressurise prior to mounting and dismantling.

Special mounting instructions for the drain pipe

- Make sure that the drain line is securely fastened.
- Provide splash protection if necessary.
- Lay the pipes without a siphon if possible, to prevent any risk of clogging due to sedimented concentrate.

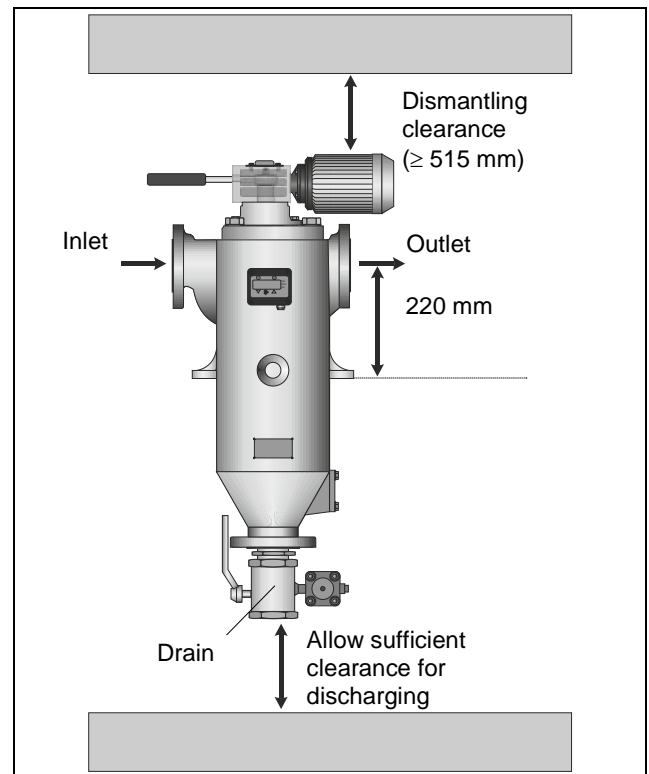


Fig. 4: Mechanical installation
(cast stainless steel version)

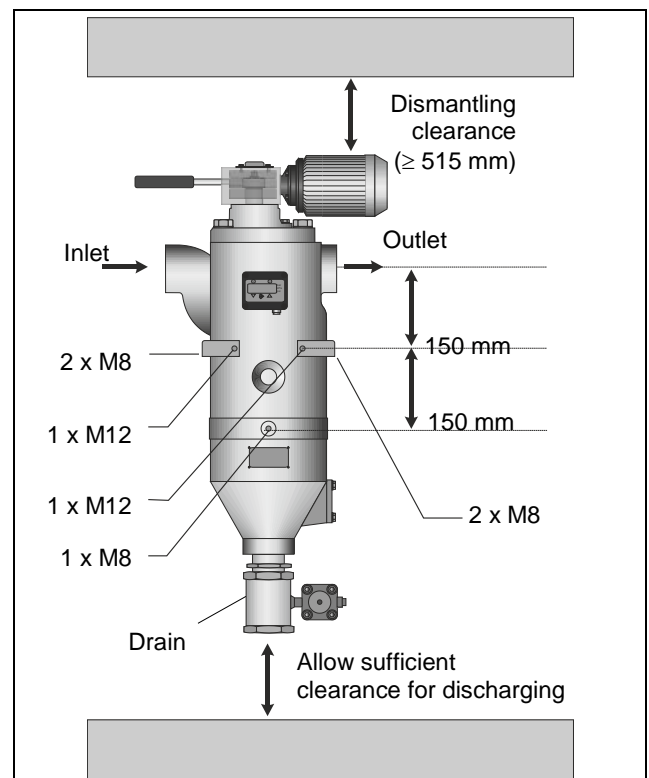


Fig. 5: Mechanical installation
(nodular cast iron version)

9.3 Electro-pneumatic 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 suitably qualified electrician.

9.3.1 Connection to customer's controller

Gear motor

- Refer to the name-plate and/or the contract documentation for details of the ratings (see also terminal box connection diagram).
- Install a suitable motor circuit-breaker.
- Connect the gear motor.

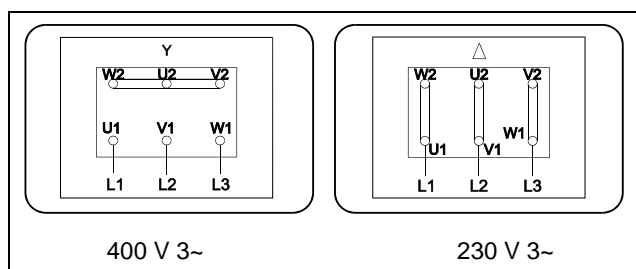


Fig. 6: Standard gear motor connections

Differential gauge/switch (optional)

- Refer to the enclosed manufacturer's documentation for details of the connections.

Automatic valves (optional)

- Connect the precontrol valve (5/2-way magnetic valve) to the compressed air supply (approx. 6 bar).
- Connect the solenoid to the power supply.

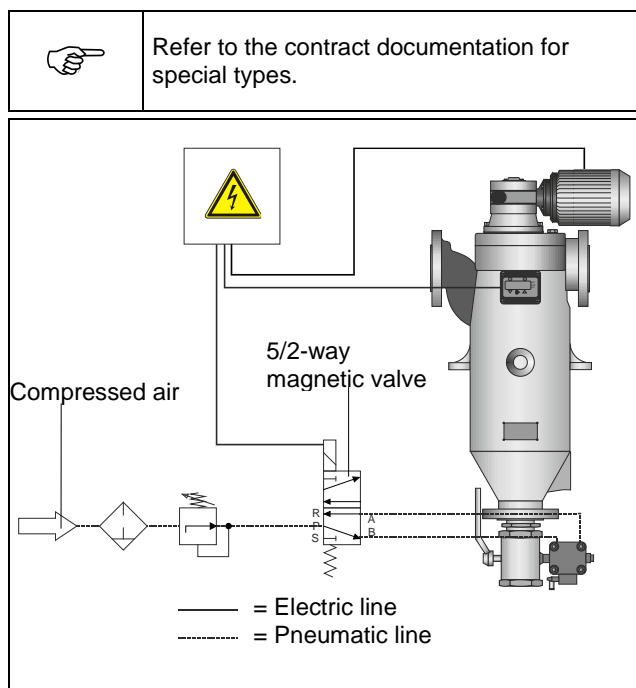


Fig. 7: Electro-pneumatic connections

Required on the switch box:

- Manual release for cleaning
- Manual release for drain valve

9.3.2 Connection to FG controller (optional)

- Connect the incoming feeder, gear motor, differential gauge/switch (optional) and precontrol valve (optional) in accordance with the enclosed circuit diagram.

9.4 Control variants of the AF 73 G3/AF 93 G3

The cleaning process is controlled differently according to the application. The control variants described here are examples and are simply intended to serve as a guide.

9.4.1 Control variant 1

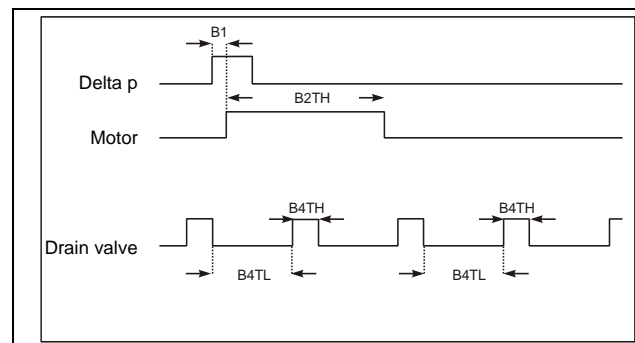


Fig. 8: Control variant 1

Parameter	Description	Recommended value
B1	Suppress differential pressure peaks	1 s
B2TH	Motor running time	10 s
B4TH	Drain valve pulse time	2 s
B4TL	Drain valve interval time	1 h

9.4.2 Control variant 2

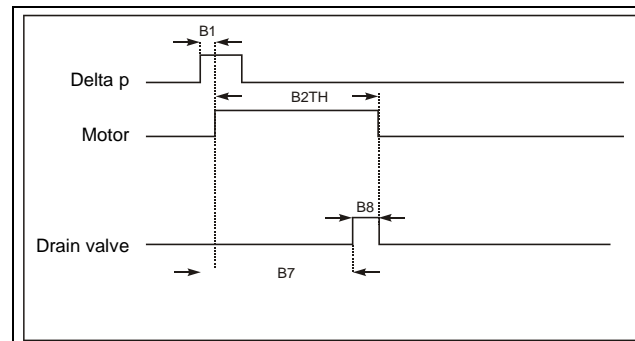


Fig. 9: Control variant 2

Parameter	Description	Recommended value
B1	Suppress differential pressure peaks	1 s
B2TH	Motor running time	10 s
B7	Drain valve starting delay	5 s
B8	Drain valve pulse time	2 s

10 Start-up

⚠ DANGER!

This FG metal-edge filter is not allowed to be put into operation until it has been established that the machine/system in which it is to be installed complies with the requirements of the applicable EC directives, harmonised standards, European standards or equivalent national standards.

⚠ DANGER!



Explosion hazard!

- ⇒ Risk of injury to persons or damage to property.
- The FG metal-edge filter must be completely vented prior to start-up for use with all media which are capable of forming explosive gases.
- The FG metal-edge filter must be completely filled with liquid.
- Take steps to prevent air pockets.

⚠ DANGER!

Danger due to high pressure in the filter!

- ⇒ Risk of injury to persons or damage to property
- Do not allow concentrate to spatter into the atmosphere.

Make sure that:

- All caps are removed from the connections.
- All foreign bodies are removed from the filter.
- All pipe connections are tightened securely.
- All screws are tightened.
- All pipes and the filter are rinsed.

10.1 Functional test

To check the direction of rotation of the gear motor

- Remove the screws on the cover of the gear motor.
- Remove the cover of the gear motor.
- Start up the gear motor briefly (< 1 s).
- Compare the actual direction of rotation of the shaft with that indicated by the arrow (clockwise rotation).
- Reverse the terminal connections of the gear motor if necessary.
- Fit the gear motor cover again and screw it tight.

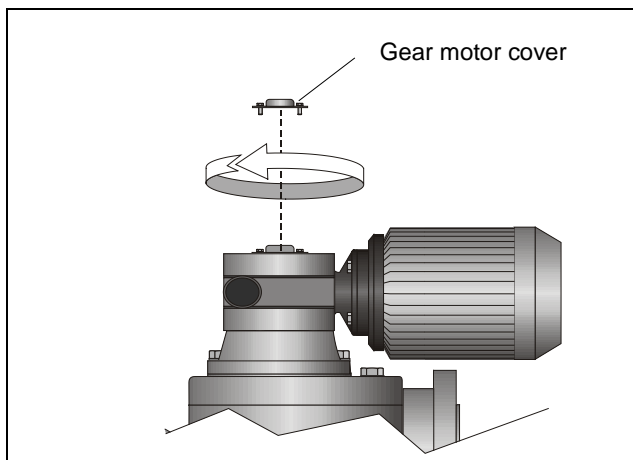


Fig. 10: Direction of rotation of the gear motor

To check the differential gauge/switch (optional)

- Refer to the enclosed manufacturer's documentation.

To check the function of the drain valve (optional)

- Supply compressed air to the precontrol valve.
- Operate the manual release for the precontrol valve.
 - ⇒ The drain valve is opened.
- Set the manual release for the precontrol valve to the OFF position.
 - ⇒ The drain valve is closed.
- Refer to the enclosed manufacturer's documentation.

10.2 Operating settings

- Switch on the controller.
- Slowly open the inlet.
- Make a note of the initial differential pressure (optional).

Settings for time-controlled cleaning

- Set the times according to the operating conditions and correct them if necessary.

Settings for differential pressure-controlled cleaning with a differential gauge/switch

- Refer to the manufacturer's documentation.
- Adjust the set differential pressure to the setpoint (see contract documentation).

Initial differential pressure

The initial differential pressure varies according to the application.

General guide:

Installation on discharge side: $\Delta p \leq 0.3 \text{ bar}$

Installation on suction side: $\Delta p \leq 0.03 - 0.1 \text{ bar}$

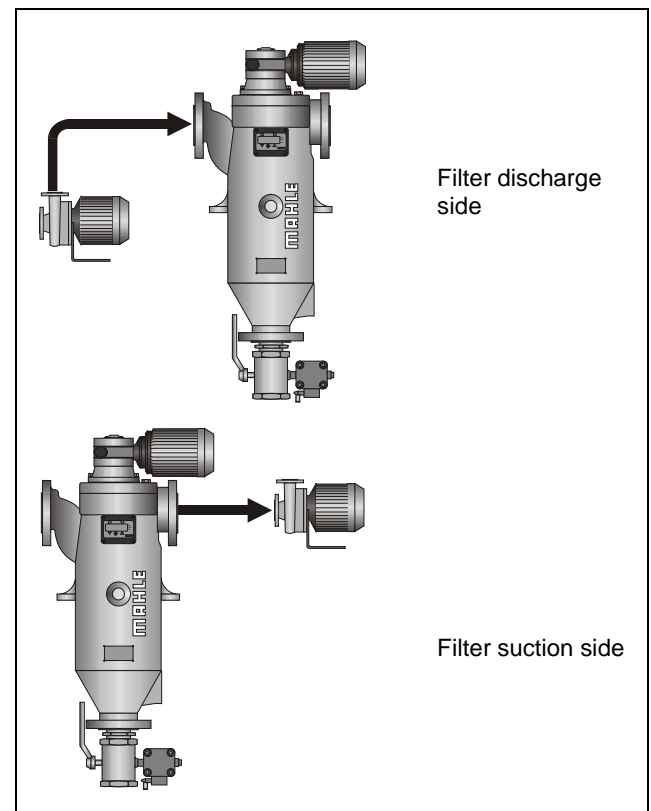


Fig. 11: Initial differential pressure



After cleaning, the differential pressure (Δp) must return almost to the original initial differential pressure. If it does not, the cleaning function is faulty (in this case, please consult the manufacturer).

11 Normal operation

DANGER!

Danger due to high pressure in the filter!

- ⇒ Risk of injury to persons or damage to property
- Do not allow concentrate to spatter into the atmosphere.



Always dispose of concentrate in a manner which does not pollute the environment! Consult the responsible authorities before deciding upon the most suitable disposal method.

The following must be monitored daily during normal operation:

- Differential pressure
- Controller functions

Rinsing the drain line

CAUTION!

A high proportion of fine dirt particles in a long pipe can lead to clogging!

- ⇒ Risk of injury to persons or damage to property
- Rinse the drain line daily/weekly, depending on the application.

- Open the drain valve manually for approx. 10 - 15 s.
- ⇒ The drain line is rinsed.

12 Shutting down the metal-edge filter

12.1 Temporary shut-down

On the installed metal-edge filter controller:

- Switch OFF the main switch.

12.2 Prolonged shut-down (> 48 h)

- Start a cleaning process manually.
- Remove the filter insert (section 15.2).
- Clean the filter insert (section 15.3.1).
- Reinstall the filter insert.
- Fill the metal-edge filter completely with liquid.
- Switch OFF the main switch.

12.3 Emergency shut-down

- Switch OFF the main switch.
- ⇒ The power supply is interrupted.


13 Notes on cooling lubricant filtration

- Precipitation of constituents and microbiological loading of the cooling lubricant must be avoided.
- Do not attempt to filter magnetic chips. Exercise caution when grinding grey cast iron or steel.
- Install a suitable preseparator (5000 µm).
- Treat the cooling lubricant carefully. Take steps to prevent excessive bacterial or fungal attack.
- Cooling lubricant that has been used for the cleaning process must be treated separately. There is a risk of enrichment with fine dirt if it is returned to the cooling lubricant cycle.
- Provide a constant-pressure valve in the drain line if the pressure on the filtered fluid side varies between 4 and 16 bar. The rinsing effect is impaired if the pressure difference is too high during the cleaning process.

14 Troubleshooting

Fault	Possible cause	Remedy
Gear motor does not turn	Motor circuit-breaker tripped	RESET the motor circuit-breaker
	Filtered fluid solidified	Check the gear motor
Valve does not open	Not enough compressed air	Clean the filter
	Precontrol valve defective	Increase the pressure
	Precontrol valve connected incorrectly	Check the precontrol valve
Initial differential pressure no longer reached	Solids concentration too high	Check the electrical and pneumatic connections
	Gear motor direction of rotation incorrect	Use a suitable prefilter
	Cleaning time too short	Check the direction of rotation
Increased concentration of dirt on clean side	Coiled cartridge defective	Increase the cleaning time (at least 1 - 2 revolutions of the gear motor)
	Seals brittle	Check the coiled cartridge and if necessary renew it
Excessive leakage on shaft seal	Check the seals and if necessary renew them	Renew the shaft seal
	Shaft seal defective	Check the seat of the shaft seal
	Shaft seal incorrectly mounted	

15 Maintenance

⚠ DANGER!	
	Explosion hazard! ⇒ Risk of injury to persons or damage to property. <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • The system must be maintained by a suitably trained person! 	

Before all maintenance work:


- Shut down the metal-edge filter (section 12).
- Take steps to prevent the machine/system from being switched on again by unauthorised persons.




- Wear protective clothing and equipment appropriate to the hazard potential of the medium (e.g. goggles, respirator, protective clothing, etc.).
- Carry out the maintenance work.
- Start up the metal-edge filter again (section 10).

15.1 Inspection and maintenance schedule

- Refer also to the contract documentation.

Interval	Component	Activity
Weekly	Metal-edge filter	Check for leakage Check the differential pressure
	Pipes	Clean
Monthly	Coiled cartridge	Check for wear and if necessary clean
	Metal-edge filter	Check the conductivity between all components. Note the maximum permissible resistance: $R < 10 \Omega$.
Yearly or when cooling lubricant replaced	Bearings	Check the clearance
	Valves	Check correct functioning
	Coiled cartridge	Clean
	Metal-edge filter	Clean
	Seal kit	Check for leakage
		The necessary maintenance work is dependent on the particular application. Please consult the manufacturer if necessary.

15.2 Removing the filter insert

⚠ DANGER!	
The metal-edge filter is pressurised! ⇒ Risk of injury to persons or damage to property! <ul style="list-style-type: none"> • Make sure that the pipe is depressurised prior to opening the metal-edge filter. 	
	The numbers indicated in parentheses correspond to those used in the spare parts drawing.

1

- Close the filter inlet and outlet.
- Relieve the pressure in the pipes if necessary.

2

- Open the drain valve.
 - Open the vent screw.
- ⇒ The filter is discharged.

3

- Turn off the compressed air supply.

4

- Switch OFF the main switch.
- Disconnect the gear motor.

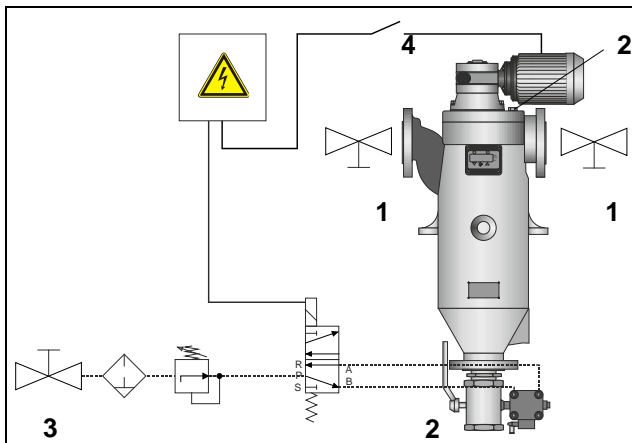


Fig. 12: Disconnecting the metal-edge filter

5

- Loosen and remove the hexagon screws (3.3) and the spring washers (3.4) on the bell housing of the gear motor.
- Withdraw the gear motor (1) vertically from the shaft.

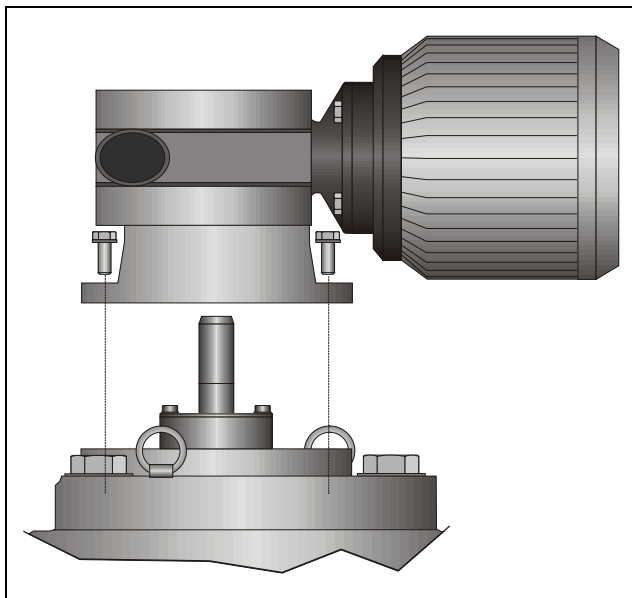


Fig. 13: Removing the gear motor

6

- Loosen and remove the hexagon screws (5) and the washer (6) on the filter cover.

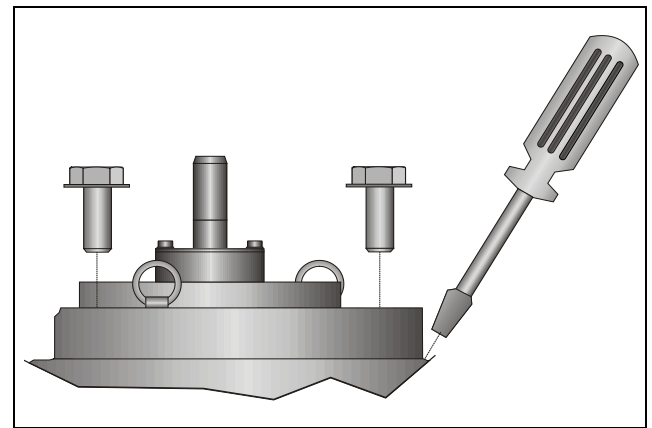


Fig. 14: Loosening and removing the screws on the filter cover

7

- Apply a large screwdriver to the notch.
- Lever off the filter cover.

8

- Lift up the filter insert by the eyebolts and withdraw it vertically.

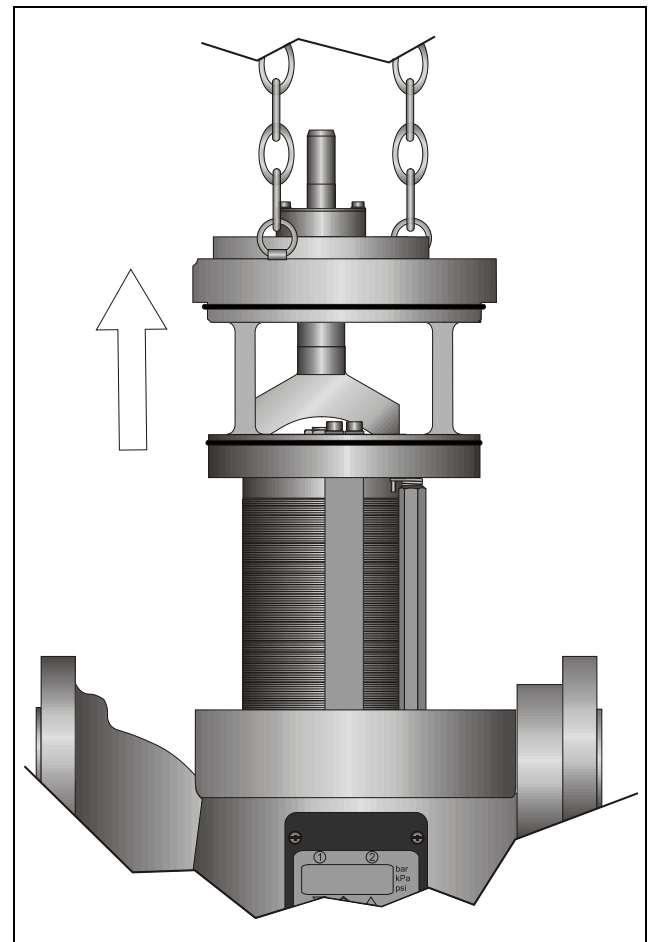


Fig. 15: Withdrawing the filter insert

- Lay the filter insert down carefully on a level surface, taking care not to damage the coiled cartridge.
- ⇒ The filter insert can now be maintained.
- Install in reverse order.
- Lower the filter insert into position, making sure it is absolutely straight.

15.3 Cleaning the filter

- Remove the filter insert (section 15.2).

15.3.1 Cleaning the filter insert

WARNING!

Danger of aerosol formation!

- All work must be carried out in a room with a suitable extraction system!



- Wear protective clothing and equipment appropriate to the hazard potential of the medium (e.g. goggles, respirator, protective clothing, etc.).
- Remove any coarse impurities by mechanical means.
- Wash the filter insert in a suitable cleaning solution.
- Carefully blow out the filter insert with a steam jet or compressed air.
- Clean (or if necessary renew) and oil the seals.

15.3.2 Cleaning the filter housing



- Wear protective clothing and equipment appropriate to the hazard potential of the medium (e.g. goggles, respirator, protective clothing, etc.).
- Remove any coarse impurities by mechanical means.
- Wash the filter housing in a suitable cleaning solution.

15.4 Replacing the coiled cartridge

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!



The numbers indicated in parentheses correspond to those used in the spare parts drawing.



The coiled cartridge can be dismantled and mounted again more easily if it is stood upright on the cover (cartridge on top).

- Remove the filter insert (section 15.2).
- Clean the filter (section 15.3).

1 (AF 93 G3 only)

- Loosen the countersunk screws (18).
- Remove the preseparator tube (19).

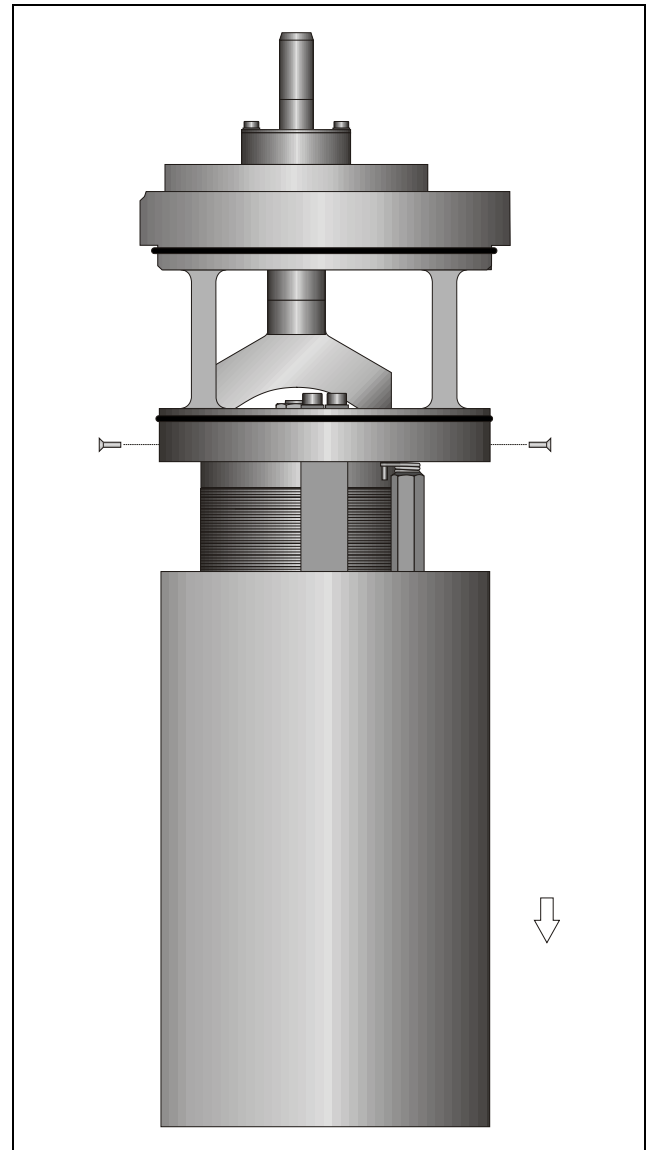


Fig. 16: Removing the preseparator tube

2

- Loosen the cylinder head screws (10) and remove them together with the spring washers (9).

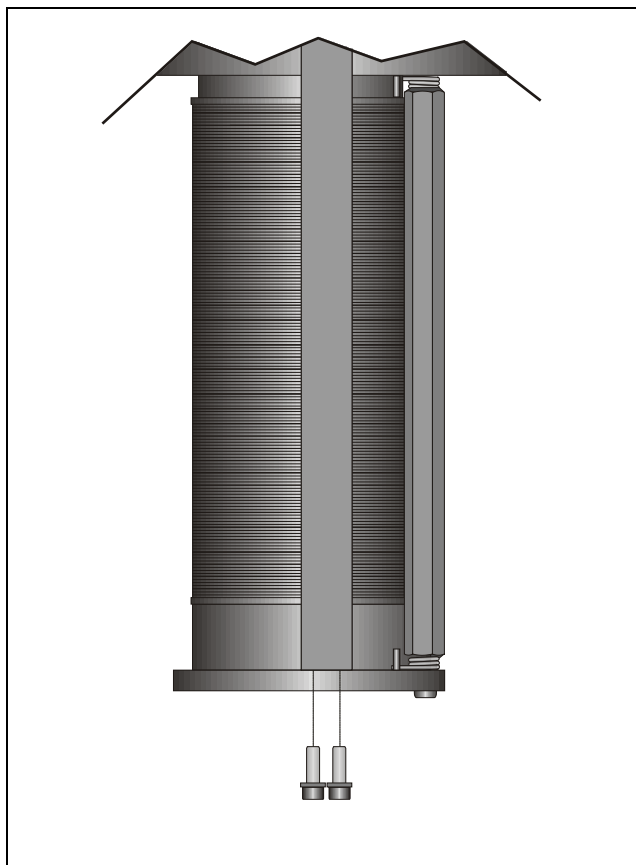


Fig. 17: Removing the cylinder head screws and the spring washers

3

- Remove the centre flange (20).

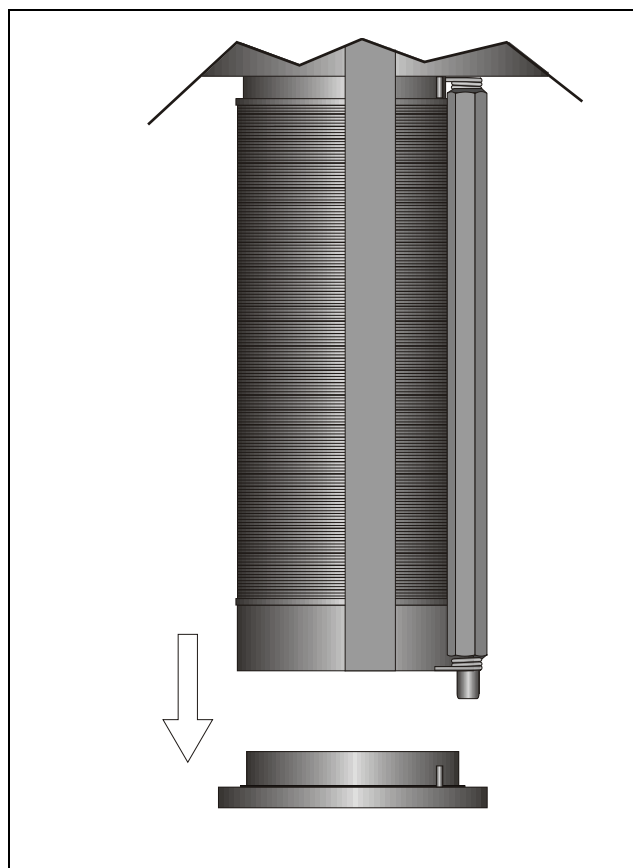


Fig. 18: Removing the centre flange

4

⚠ CAUTION!

Danger of hand injuries from preloaded springs!

⇒ Fingers may be crushed.

- Never attempt to reach between the scraper and the coiled cartridge!

- Remove the coiled cartridge complete with the cartridge bearing (33).

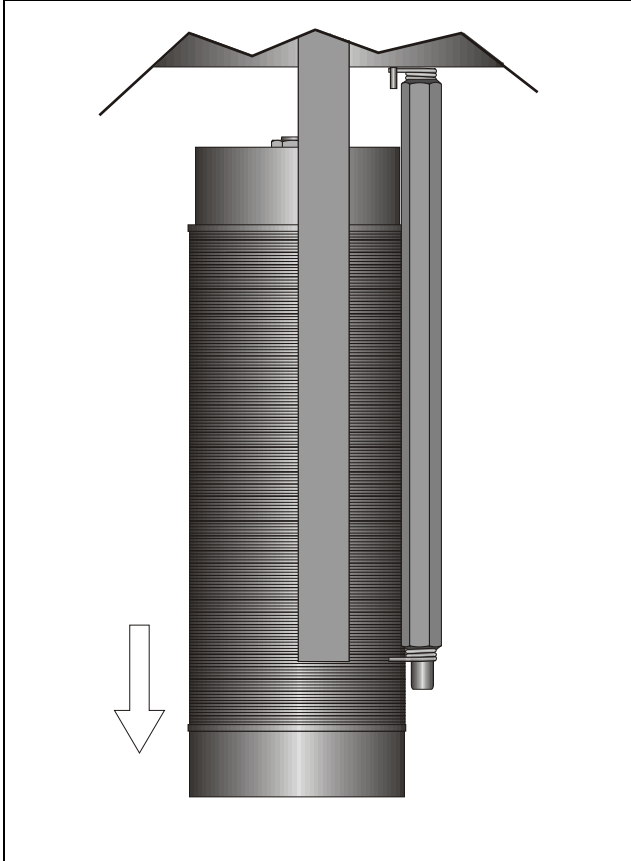


Fig. 19: Removing the complete coiled cartridge

5

- Loosen and remove the hexagon nuts (33.1).

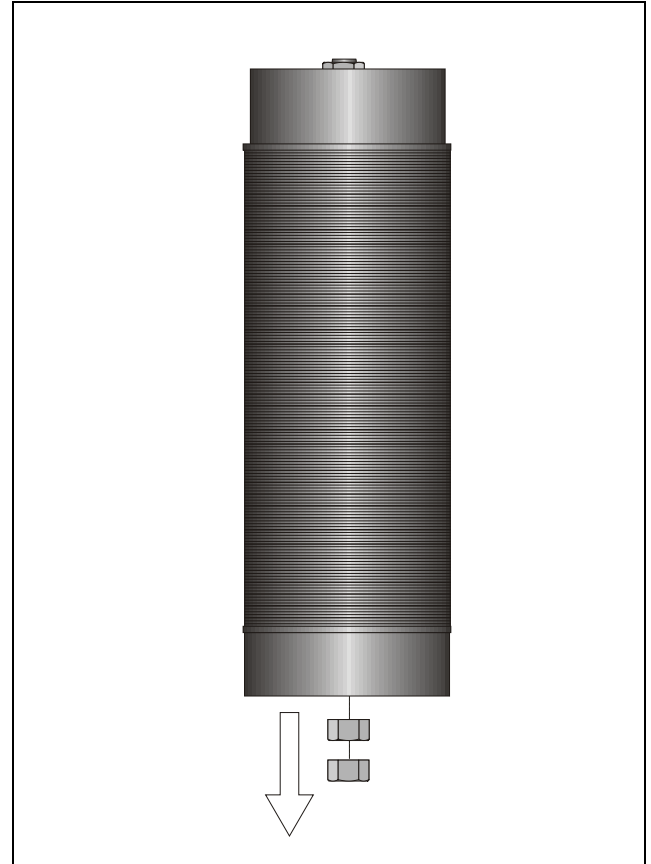


Fig. 20: Removing the hexagon nuts

6

- Remove the cartridge ring (33.4).

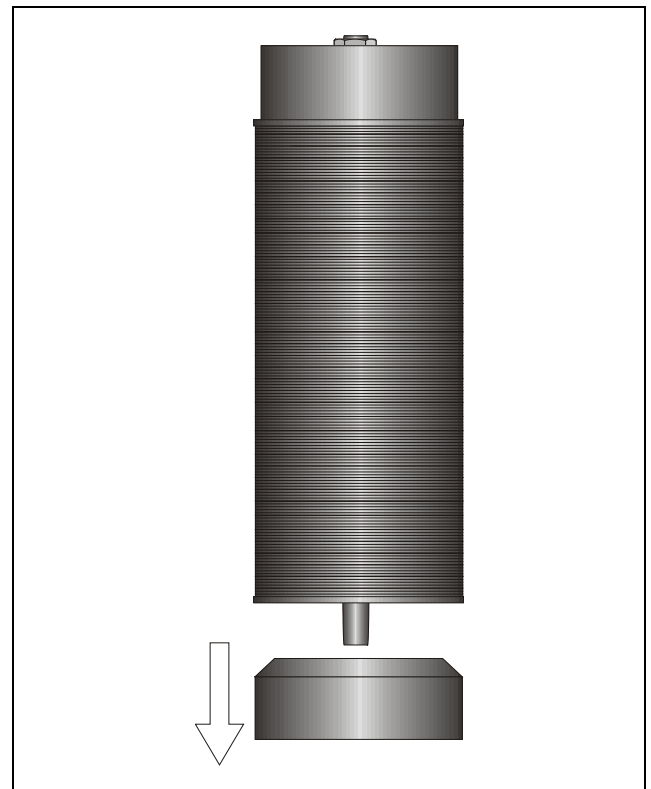


Fig. 21: Removing the cartridge ring

7

- Carefully pull the coiled cartridge down.

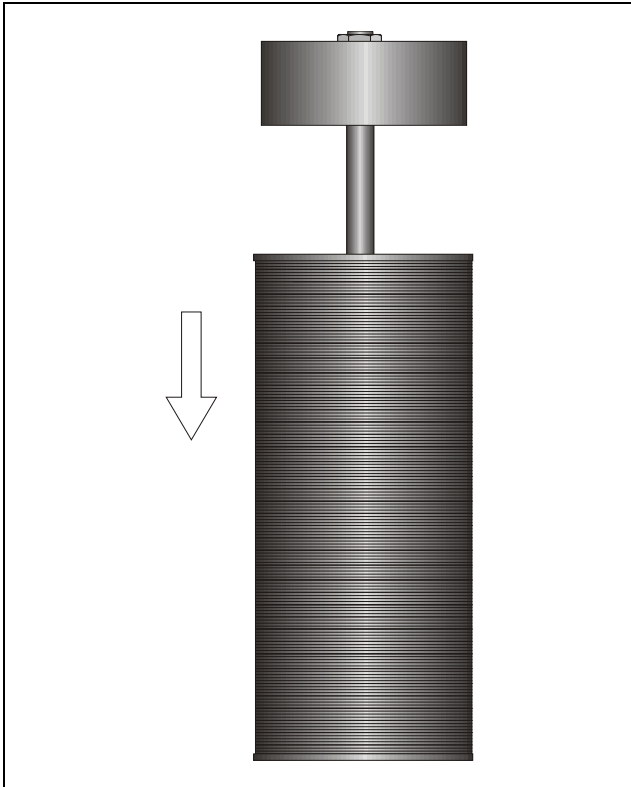


Fig. 22: Removing the coiled cartridge

- Install in reverse order.

15.5 Replacing the element seals and guides

⚠ 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!



The numbers indicated in parentheses correspond to those used in the spare parts drawing.

- Remove the filter insert (section 15.2).
- Clean the filter (section 15.3).
- Remove the coiled cartridge from the filter insert (section 15.4, steps 1 - 3).
- ⇒ The seals can now be replaced.

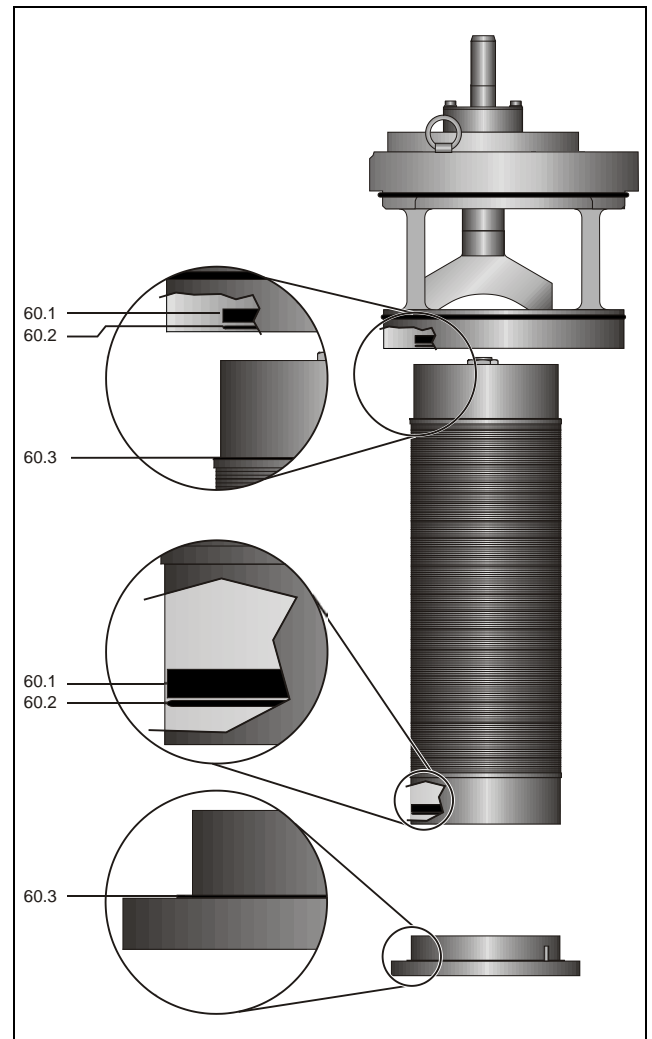


Fig. 23: Replacing the element seals and guides

15.6 Replacing the scraper and springs

⚠ 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!



The numbers indicated in parentheses correspond to those used in the spare parts drawing.

- Remove the filter insert (section 15.2).
- Clean the filter (section 15.3).
- Remove the coiled cartridge from the filter insert (section 15.4, steps 1 - 3).

1

- Pull the scraper (35) down and withdraw it.

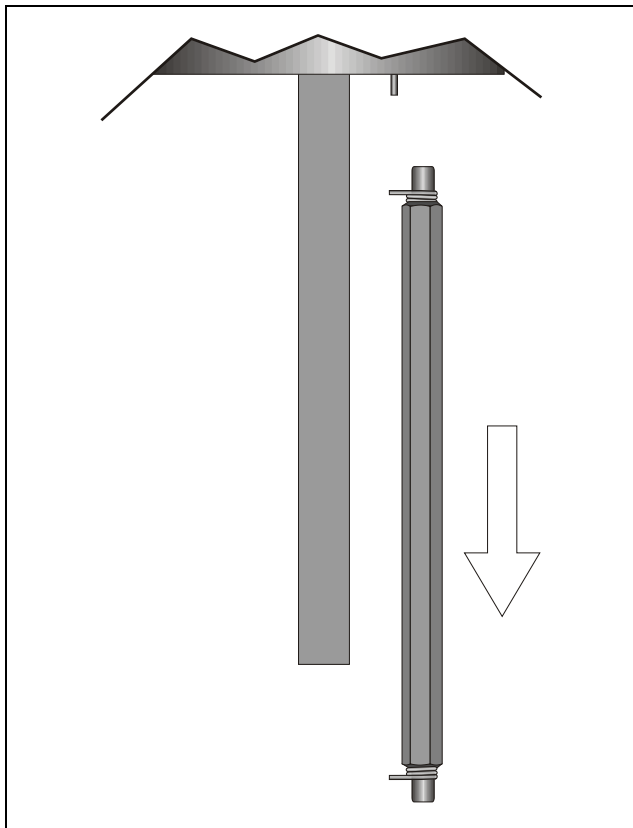


Fig. 24: Withdrawing the scraper

2

- Loosen the hexagon screws (35.6) and the lock nuts (35.5) on the scraper.

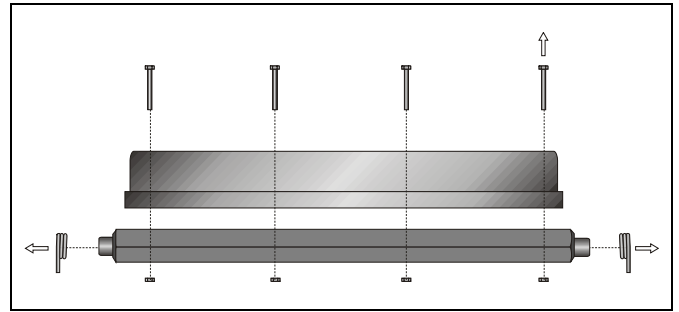


Fig. 25: Dismantling the scraper

⇒ The scraper and springs can now be replaced.

- Install in reverse order.

After installing:

- The legs of the springs must be on the outside.
- The springs must be located behind the notch pins.
- The scraper must rest neatly on the coiled cartridge.
- The scraper must not be tilted.
- Check all screws and tighten them if necessary.

15.7 Replacing the shaft seals

⚠ 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!



The numbers indicated in parentheses correspond to those used in the spare parts drawing.

- Remove the gear motor (section 15.2, steps 1 - 5).

1

- Remove the feather key (16.1).

2

- Loosen and remove the hexagon screws (25).

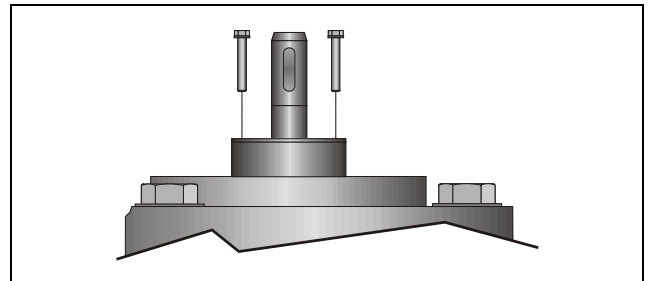


Fig. 26: Loosening and removing the hexagon screws

3

- Carefully withdraw the sealing disc (26) and the shaft seal attachment (27) from the shaft.

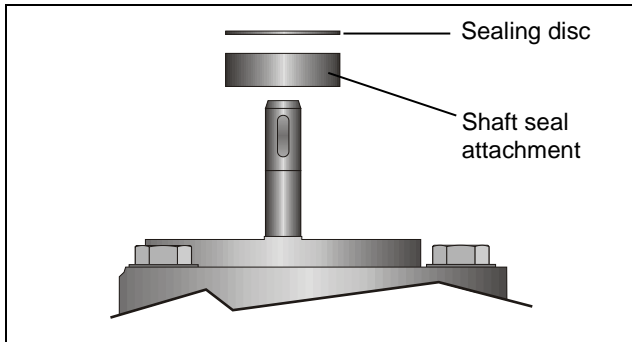


Fig. 27: Withdrawing the sealing disc and the shaft seal attachment

4

- Remove the lip seal (70.1), back-up ring (70.2) and O-ring (70.3) from the shaft seal attachment.

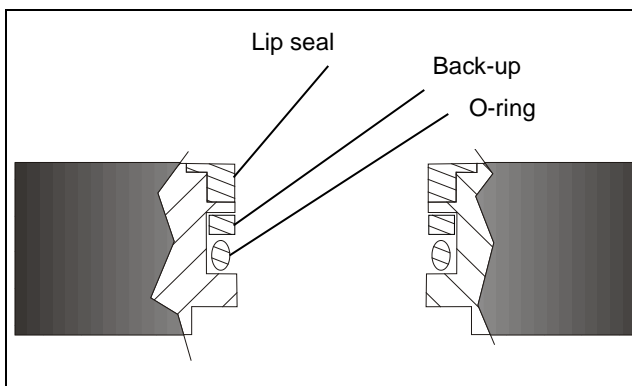


Fig. 28: Removing the seals

5

- Remove the O-ring (70.4) from the shaft bearing insert (24).

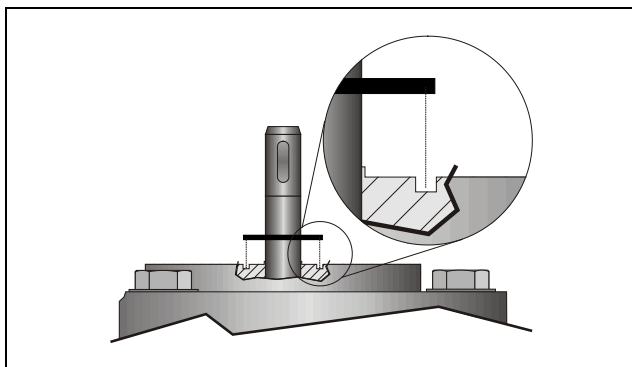


Fig. 29: Removing the O-ring

6

- Loosen and remove the cylinder head screws (23).

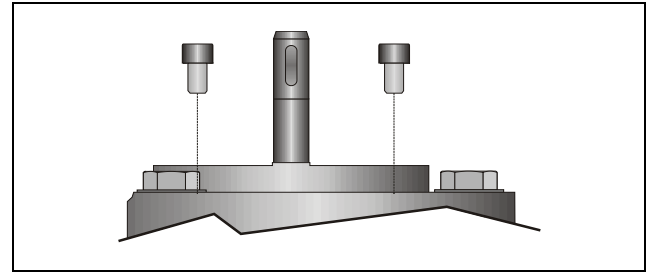


Fig. 30: Loosening and removing the cylinder head screws

7

- Remove the shaft bearing insert (24).

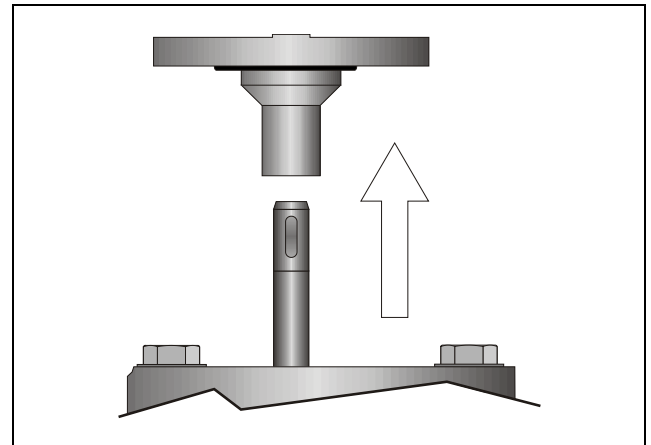


Fig. 31: Removing the shaft bearing insert

8

- Remove the O-ring (70.5) from the shaft bearing insert (24).

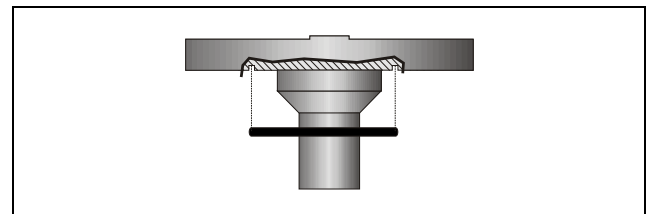


Fig. 32: Removing the O-ring

9

- Clean the shaft seal attachment, drive shaft and shaft bearing insert.
- Oil the new sealing elements lightly and install them.
- Install in reverse order.

After installing:

- Press the shaft seal attachment and the sealing disc together and carefully push them over the shaft.
- Screw in the cylinder head screws hand-tight.
- Turn the drive shaft slightly and pull it up.
- Tighten the hexagon screws.

15.8 Replacing the shaft guide

⚠ 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!



The numbers indicated in parentheses correspond to those used in the spare parts drawing.

- Remove the gear motor (section 15.2, steps 1 - 5).
- Replace the shaft seals (section 15.7, steps 1 - 3).

1

- Loosen and remove the cylinder head screws (23).

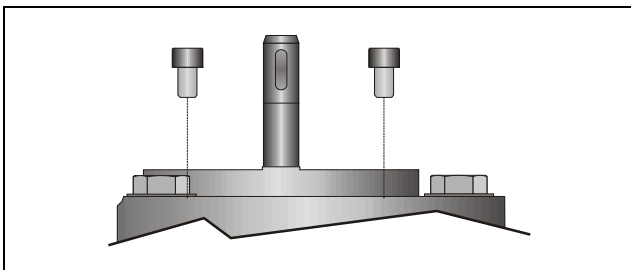


Fig. 33: Loosening and removing the cylinder head screws

2

- Remove the shaft bearing insert (24).

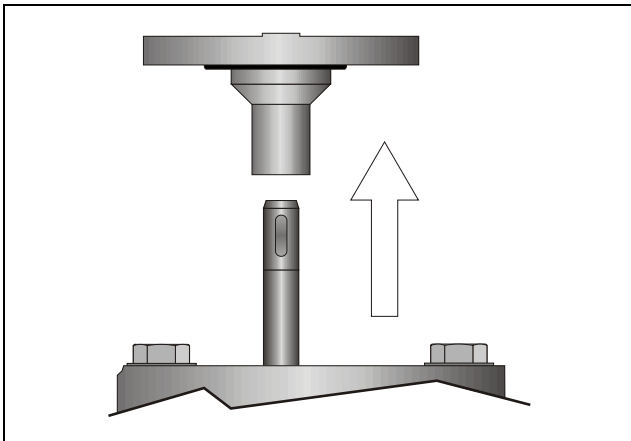


Fig. 34: Removing the shaft bearing insert

3

- Remove the bearing bushes (50.1) from the shaft bearing insert.

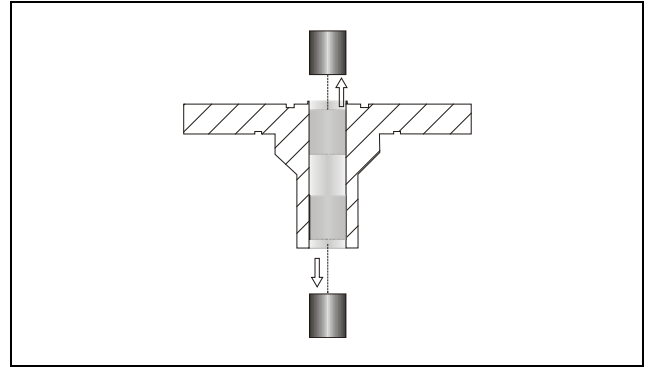


Fig. 35: Removing the bearing bushes

4

- Remove the axial bearing disc (50.2) from the shaft.

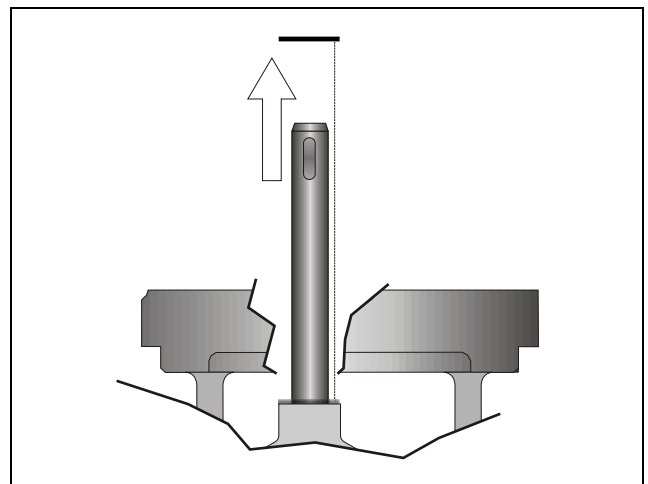


Fig. 36: Removing the axial bearing disc

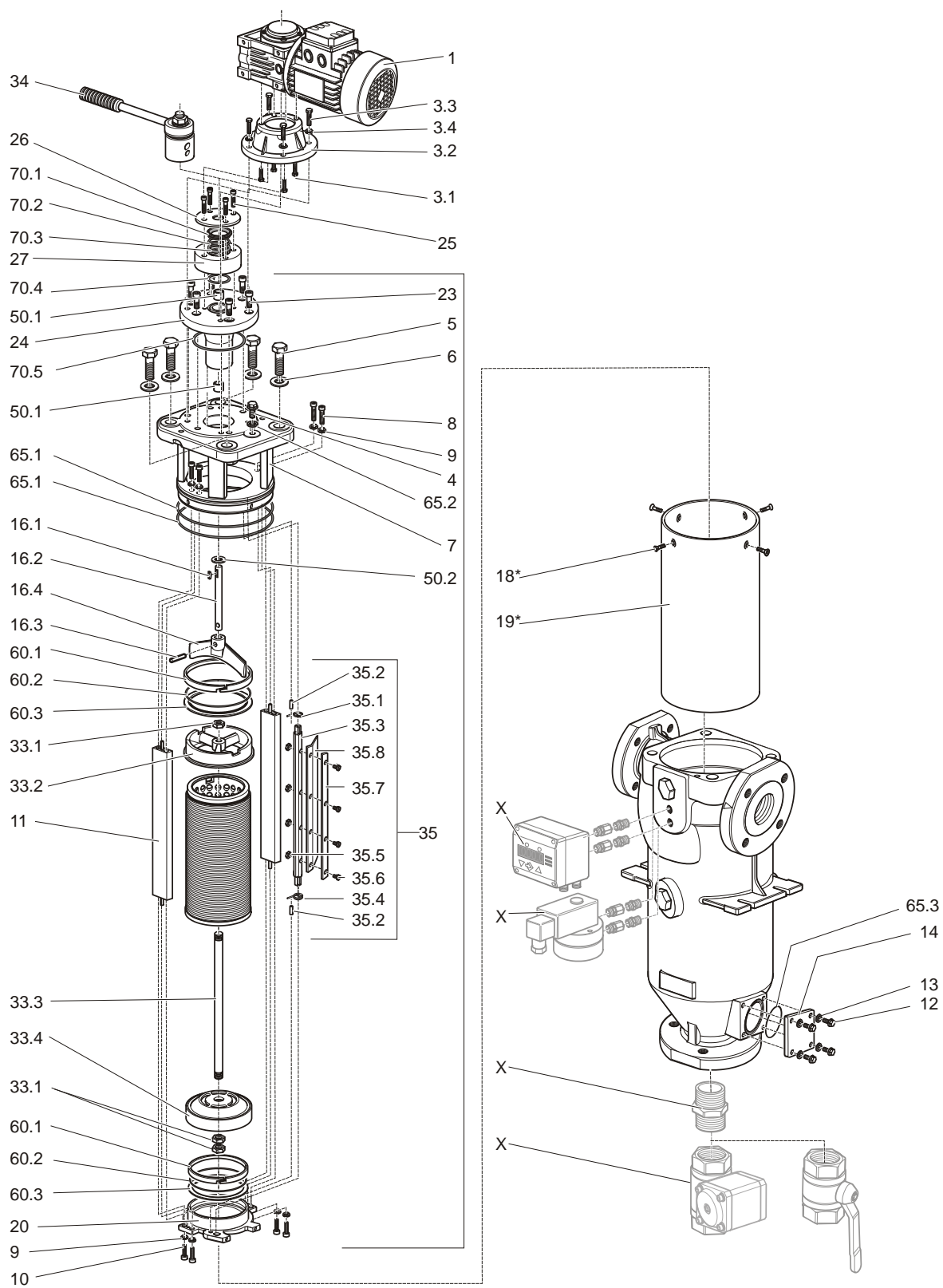
5

- Clean all dismantled components (including the drive shaft).
- Install in reverse order.

After installing:

- Press the shaft seal attachment and the sealing disc together and carefully push them over the shaft.
 - Screw in the cylinder head screws hand-tight.
 - Turn the shaft slightly and pull it up.
- Tighten the cylinder head screws.

16 Exploded view



*Nur bei AF 93 G3
*Only for AF 93 G3

Fig. 37: Exploded view

17 List of parts

Ser. no.	Part name/DIN designation	Qty.	Benennung/DIN Bezeichnung
1	gear motor	1	Getriebemotor
3	bell housing with screws AF Vario/G3	1	Motoraufnahme Z AF Vario/G3
3.1	cylinder head screw	4	Zylinderschraube M6 x 18 ISO 4762
3.2	bell housing	1	Motorbock
3.3	hexagon screw	4	6kt-Schraube M8 x 20 ISO 4017
3.4	spring washer	4	Federring A8 DIN 128
4	vent screw	1	Entlüftungsschraube G ¼
5	hexagon screw	4	6kt-Schraube M20 x 65 ISO 4014
6	washer	4	Scheibe B21 ISO 7090
7	cover AF Vario/G3	1	Deckel AF Vario/G3
8	cylinder head screw	4	Zylinderschraube M6 x 40 ISO 4762
9	spring washer	8	Federring A6 DIN127
10	cylinder head screw	4	Zylinderschraube M6 x 20 ISO 4762
11	support	2	Träger
12	hexagon screw	4	6kt-Schraube M8 x 20 ISO 4017
13	spring washer	4	Federring A8 DIN 128
14	blind flange	1	Verschlussflansch
16	drive shaft z AF73-113/G3	1	Antriebswelle Z AF73-113/G3
16.1	feather key	1	Passfeder 6 x 6 x 20 ISO 773
16.2	drive shaft	1	Antriebswelle
16.3	clamping pin	1	Spannstift 6 x 30 ISO 8752
16.4	coupling fork	1	Mitnehmer
18	countersunk screw (only AF 93)	4	Senkschraube M5 x 8 ISO 10642 (nur AF 93)
19	preseparator tube (only AF 93)	1	Schutzzyylinder (nur AF 93)
20	centre flange AF73-113/G3	1	Zentrierflansch AF73-113/G3
23	cylinder head screw	6	Zylinderschraube M10 x 16 ISO 4762
24	shaft bearing insert AF73-113/G3	1	Deckeleinsatz AF73-113/G3
25	hexagon screw	4	6kt-Schraube M4 x 25 ISO 4017
26	sealing disc AF73-113/G3	1	Dichtscheibe AF73-113/G3
27	shaft seal attachment AF73-113/G3	1	Dichtaufsatz AF73-113/G3
33	cartridge bearing z AF73/93/G3	1	Spulenlagerung Z AF73/93/G3
33.1	hexagon nut	3	6kt-Mutter M12 ISO 4032
33.2	cartridge bearing	1	Spulenlager
33.3	rod	1	Stange
33.4	cartridge ring	1	Spulenring
34	ratchet	1	ZR-Knarre
35	scraper z AF73/93/153/G3	1	Abstreifer Z AF73/93/153/G3
35.1	top spring	1	Schenkelfeder oben
35.2	notch pin	2	Kerbstift 3 x 16 ISO 8740
35.3	scraper shaft	1	Abstreiferwelle
35.4	bottom spring	1	Schenkelfeder unten
35.5	lock nut	4	Sicherungsmutter M4 DIN 980
35.6	hexagon screw	4	6kt-Schraube M4 x 25 ISO 4017
35.7	stiffening plate	1	Verstärkungsblech
35.8	scraper	1	Abstreifer
50	bearing bush kit AF73-113/G3	1	Buchsensatz AF73-113/G3
50.1	bearing bush	2	Buchse XSM-1820-15
50.2	axial bearing disc	1	Anlaufscheibe 20 x 28 x 1,5
60	seal-kit element AF Vario/G3	1	Dichtsatz Element AF Vario/G3
60.1	radial bearing ring	2	Führungsring 101,3
60.2	o-ring	2	O-Ring 101,2 x 2,62
60.3	axial bearing disc	2	Anlaufscheibe 115 x 101,4 x 1,5
65	seal-kit housing AF Vario/G3	1	Dichtsatz Gehäuse AF Vario/G3
65.1	o-ring	2	O-Ring 168 x 4
65.2	sealing ring	1	Dichtring 14 x 18 x 1,5 DIN 7603
65.3	o-ring	1	O-Ring 56,74 x 3,53

Ser. no.	Part name/DIN designation	Qty.	Benennung/DIN Bezeichnung
70	seal-kit shaft AF73-113/G3	1	Dichtsatz Welle AF73-113/G3
70.1	lip seal	1	Lippendichtung D18
70.2	back up ring	1	Stützring 17,9 x 24 x 0,7
70.3	o-ring	1	O-Ring 18,00 x 3,53
70.4	o-ring	1	O-Ring 32,99 x 2,62
70.5	o-ring	1	O-Ring 53,57 x 3,53

18 Spare parts

No.	Designation	Material no.	Benennung
16	drive shaft z AF73-113/G3 VP (carbon steel)	70308357	Antriebswelle Z AF73-113/G3 VP (C-Stahl)
16	drive shaft z AF73-113/G3 VP (stainless steel)	70310733	Antriebswelle Z AF73-113/G3 VP (Edelstahl)
33	cartridge bearing z AF73-93/G3 VP (carbon steel)	70315134	Spulenlagerung Z AF73-93/G3 VP (C-Stahl)
33	cartridge bearing z AF73-93/G3 VP (stainless steel)	70315135	Spulenlagerung Z AF73-93/G3 (Edelstahl)
34	ratchet VP (carbon steel)	79752692	ZR-Knarre Z VP (C-Stahl)
34	ratchet VP (stainless steel)	70310784	ZR-Knarre Z VP (Edelstahl)
35	scraper z VP (carbon steel)	70310724	Abstreifer Z VP (C-Stahl)
35	scraper z VP (stainless steel)	70310731	Abstreifer Z VP (Edelstahl)
35.1 35.4	spring set AF73/93/153 VP (stainless steel)	79753492	Schenkelfedersatz AF73/93/153 VP (Edelstahl)
35.8	scraper VP (stainless steel)	71116805	Abstreifer (Edelstahl)
50	bearing bush kit AF73-113/G3 VP (PTFE)	70308169	Buchsensatz AF73-113/G3 VP (PTFE)
60	seal-kit element AF Vario/G3 VP (FPM)	70308045	Dichtsatz Element AF Vario/G3 VP (FPM)
60	seal-kit element AF Vario/G3 VP (PTFE)	70308343	Dichtsatz Element AF Vario/G3 VP (PTFE)
65	seal-kit housing AF Vario/G3 VP (FPM)	70311595	Dichtsatz Gehäuse AF Vario/G3 VP (FPM)
65	seal-kit housing AF Vario/G3 VP (PTFE)	70311599	Dichtsatz Gehäuse AF Vario/G3 VP (PTFE)
70	seal-kit shaft AF73-113/G3 VP (FPM)	70303518	Dichtsatz Welle AF73-113/G3 VP (FPM)
70	seal-kit shaft AF73-113/G3 VP (PTFE)	70308352	Dichtsatz Welle AF73-113/G3 VP (PTFE)
60 65 70	seal-kit complete AF73/93/G3 VP (FPM)	70315877	Dichtsatz Komplet AF73/93/G3 VP (FPM)
60 65 70	seal-kit complete AF73/93/G3 VP (PTFE)	70315880	Dichtsatz Komplet AF73/93/G3 VP (PTFE)
	filter element → see name-plate		Filterelement → siehe Typenschild



Please request a separate spare parts drawing and list of spare parts for special versions.

19 Declaration of incorporation

As defined by the EC Machinery Directive

EU – Einbauerklärung
EU Declaration of incorporation
Déclaration relative au montage 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 :
Typenbezeichnung:
Type designation:
Désignation du type :
Funktionsbeschreibung:
Machine description:
Description du fonctionnement :

Automatik-Kantenspaltfilter
Automatic metal edge filter
Filtres automatiques à fentes
AF 73 G/AF 93 G
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:
Les normes harmonisées ci-dessous ont été appliquées :

DIN EN ISO 12100:2011-03, DIN EN ISO 4414:2011-04

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,

17.12.17
Datum/Date/Date

Unterschrift/Signature/Signature

Anlage/Annex/Annexe

3 Seiten/pages/pages



The filter is only allowed to be started if the complete machine is also started up!

Anlage zur Einbauerklärung gemäß Richtlinie
2006/42/EU für Automatik-Kantenspaltfilter
Annex to the Declaration of Incorporation pursuant to
the Machinery Directive 2006/42/EU for automatic metal
edge filter



Annexe à la déclaration de montage selon la directive
2006/42/UE pour filtres automatiques à fentes
Beschreibung der grundlegenden Sicherheits- und Gesundheits-
schutzanforderungen (soweit zutreffend) gemäß 2006/42/EU, An-
hang 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 Befehls-einrichtungen 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

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 :
Typenbezeichnung:
Type designation:
Désignation du type :

Automatik-Kantenspaltfilter
Automatic metal edge filter
Filtres automatiques à fentes

AF 73 G/AF 93 G

Funktionsbeschreibung:
Machine description:
Description du fonctionnement :

Filtration von Feststoffen
Filtration of solids
Filtration de solides

allen einschlägigen Bestimmungen der Druckgeräterichtlinie 2014/68/EU, Anhang 1 entspricht.
conforms to all relevant provisions of the pressure equipment directive 2014/68/EU, annex I.
répond à toutes les dispositions applicables de la directive équipements sous pression 2014/68/UE, annexe I.

Angewendete harmonisierte Normen, insbesondere
Applied harmonized standards in particular
Normes harmonisées utilisées, notamment

AD 2000

Angewendete nationale Normen und technische Spezifikationen, insbesondere
Applied national norms and techn. specifications, especially
Normes et spécifications nationales utilisées, notamment

HP0, TRD/TRB

Und allen wesentlichen Schutzanforderungen der Ex-Richtlinie 2014/34/EU entspricht.
Conforms to all the basic requirements of the Ex-directive 2014/34/EU.
Répond à toutes les exigences essentielles de la Ex-directive 2014/34/UE.

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

EN 1127-1 und EN 13463-1

Unterzeichner:
Signatory:
Signataire :

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

Öhringen,

17.7.17
Datum/Date/Date

Unterschrift/Signature/Signataire



- The enclosed declaration of conformity only applies to discharge casings with a CE mark for categories I - IV or to complete filters in accordance with the Ex directive for categories 3G/2G.
- The standard version is designed for Group 2 liquids as defined by the EC Pressure Equipment Directive 97/23/EC Article 9.

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