



Instruction manual *JF-Suction unit*

<i>JF-Serie</i>	<i>Order no.</i>
<i>JF 5</i>	<i>0 200 225</i>
<i>JF 10</i>	<i>0 200 230-3</i>
<i>JF 10</i>	<i>0 200 230 - ZA1</i>
<i>JF 100</i>	<i>0 200 230 - 5</i>
<i>JF 200</i>	<i>0 200 215 - ZA</i>



English

Index

1 Safety instructions.....	3
1.1 Used Symbols.....	3
1.2 Safety instructions.....	3
1.3 Usage According to Determination.....	4
2 General.....	5
2.1 General description.....	5
2.2 Mode of operation.....	6
2.3 Warranty instructions.....	7
3 Transportation.....	9
4 Installation, Initial Operation.....	10
4.1 Introduction.....	10
4.2 Unpacking.....	10
4.3 Installation.....	11
4.4 Startup.....	17
5 Operation.....	18
5.1 Control elements.....	18
5.2 Operation.....	18
6 Maintenance.....	23
6.1 Cleaning the Device.....	23
6.2 Filter saturation indicator and filter replacement.....	24
6.3 Disposal / shutdown.....	26
6.4 Replacement Filters.....	27
6.5 Spare Parts.....	30
7 Troubleshooting.....	31
7.1 Failure:.....	31
7.2 Accident:.....	31
7.3 Quick diagnosis for joke extraction system.....	31
8 Datos técnicos.....	33
8.1 Interface.....	35
9 Circuit diagram.....	41
10 Konformitätserklärung / Declaration of conformity.....	49

1 Safety instructions

1.1 Used Symbols



Danger! Indicates danger posed by electricity.



Danger! Death, severe injury or extensive material damage will occur unless the respective precaution measurements are taken.



Warning! Death, severe injury or extensive material damage might occur unless the respective precaution measurements are taken.



Caution! Injury might occur unless the respective precaution measurements are taken.

Caution! An unwanted result might occur unless the respective precaution measurements are taken.

Caution! Material damage might occur unless the respective precaution measurements are taken.

1.2 Safety instructions



Warning! When using electrical devices, the following basic protective measures are to be taken in order to prevent electric shock, danger of injury and fire

Read and observe these instructions before using the device!

- Retain this operation and maintenance manual.
- Do only use the device for extracting dust and fume.
- Do **not** use the system for extracting burning or glowing substances! Except FA10, FA20, WBA30
- Do **not** use the system for extracting inflammable or explosive gases.
- Do **not** use the system for extracting aggressive substances or aluminum dust.
- Do not use the system for extracting any liquids..(Exception: OEN series)
- Protect the line cord from heat, moisture, oil and sharp edges.
- Pay attention to the admissible line voltage (cf. instructions on name plate).
- Use only **original spare parts**.
- Use only **original filters**.
- Do **not** operate the system without a filter element.
- Disconnect the device from the mains before opening it.
- The air outlet opening must **not** be covered or blocked.
- The device must always stand stable.
- Only the joke crane eyes included in delivery may be used! Observe the enclosed short manual.
- In case of technical problems, contact the manufacturer or your specialist dealer!

When extracting carcinogenic substances or welding fume of material containing nickel or chrome, the regulations of the German TRGS 560 „Lufrückführung beim Umgang mit krebserzeugenden Gefahrstoffen“ or the respective local regulation must be observed!

Personal protective equipment (PSA):

Observe local plant regulations.

- Respiratory protection: Half-mask as per FFP3 (EN149) (unless otherwise specified)
- Rubber gloves • Safety goggles
- Depending on the nature of the hazardous substances, a protective suit should also be worn.

1.3 Usage According to Determination

LN, GL, BF, TFS and FP, FPV series extraction and filtration systems are designed to extract dust and fume and must not be used for extracting burning or glowing substances, inflammable or explosive gases, aggressive substances and aluminum dust and **not** for extracting liquids, as described in the safety instructions.

Special ATEX models may be used for extracting **from** Zone 22. However, correct connection of the system and all add-on parts to a suitable grounding system must be provided. The device itself **must not** be operated within a ATEX Zone.

OEN series devices may be used for extracting oil mist. For correct dimensioning, please call your joke representative.

CR-LN and CR-GL series devices are suitable for punctual collection of dust emissions in cleanrooms and controlled areas and, if an activated carbon filter is used, also for gaseous pollutants. The respective clean-room class depends on LN, GL, JF, TFS and FP, FPV series extraction and filtration systems are designed to extract dust and fume and must not be used for extracting burning or glowing substances, inflammable or explosive gases, aggressive substances and aluminum dust and **not** for extracting liquids, as described in the safety instructions.

Special ATEX models may be used for extracting **from** Zone 22. However, correct connection of the system and all add-on parts to a suitable grounding system must be provided. The device itself **must not** be operated within a ATEX Zone.

OEN series devices may be used for extracting oil mist. For correct dimensioning, please call your joke representative.

CR-LN and CR-GL series devices are suitable for punctual collection of dust emissions in cleanrooms and controlled areas and, if an activated carbon filter is used, also for gaseous pollutants. The respective clean-room class depends on

2 General

2.1 General description

Filter types

Pre-filters:

The extraction and filter system is equipped with different exchangeable pre-filters in different filter classes depending on the model (see technical data). The system uses, for example,

- Aluminium mesh filter (G3)
- Filter mats (M5)
- Pocket filter (M5)
- Z-line filter (M6)
- Z-linepanel filter (F7)
- MP-TEC filter (F7)
- SafeLine filter (F9)

The pre-filter protects the downstream particle filter thereby increasing the service life of the system considerably. Changing the pre-filter is shown separately (individual filter monitoring) depending on the type of system.

Main filter:

Depending on the type of device, either a particle filter or a cleanable filter cartridge acts as the main filter. The equipment used are, for example,

- Filter cartridges (95% , dust class M)
- Particle filter (99.95% , H13)
- Particle filter (99.995% , H14)

The main filter ensures that more than 99.95% (particle filter H13), 99.995% (particle filter H14) and 95% (filter cartridge, dust class M) of the extracted smoke and dust particles remains in the filter (as per DIN EN 1822). This still holds true when the filter insert is partially or completely saturated. However, as the saturation of the filter increases, the extraction level of the filter unit decreases.

Activated carbon filter

The service life of the activated carbon filter mainly depends on the specific application conditions and therefore cannot be predetermined. If there are unpleasant odours, this means that the saturation level of the activated carbon filter has been reached and the filter must be replaced. The activated carbon filter is not monitored by the filter saturation indicator.

2.2 Mode of operation

LN, JF, CR, GL, TFS series

Area of application

Glutinous and moist dusts, such as laser emissions, solder smoke, solvent vapours and glue vapours

Principle of operation

The contaminated air is collected by the collection unit (hood, hose) and is transported into the filter unit by a pipe, a flexible hose or a suction arm. Here the contaminant particles are filtered into different filter levels according to their filter class. The cleaned air is then circulated back into the workspace or, depending on the application, diverted outdoors through a line.

FP series

Area of application

Dry dusts such as those from the milling, drilling, grinding, or laser processing of materials which are not glutinous and which have not been oiled.

A pre-coating of the filter cartridges with Precofix 200 allows even glutinous substances to be extracted, such as those produced during laser processing of plastics, wood and rubber.

Principle of operation

The contaminated air is extracted using specially suited collection elements and transported into the filter unit by a pipe, a flexible hose or a suction arm. There the dust particles are filtered out by a cleanable filter cartridge. The filter cartridge can be cleaned by hand using a compressed air gun or using the filter cleaning module, on which a cleaning interval can be set. The dust particles separated in this manner are collected in a dust collector and can be disposed of easily and, if required, with little contamination. The cleaned air is then circulated back into the workspace or, depending on the application, diverted outdoors through a line.

OEN series

Area of application

For oil and emulsion mist, glutinous dusts.

Principle of operation

The contaminated air is extracted by the collection unit (hose, hood) and is transported to the filter unit via a pipe or a flexible hose. In the first chamber of the housing, the oil and cooling lubricant drops are agglomerated and coalesced by expanding the air (drops combine and grow). During this process, the majority of the drops remain in the expansion chamber/oil catch tray; the resulting liquid can be drained via a drain valve. The remaining oil and cooling lubricant particulates are filtered out in the second and third filter levels. The fourth filter level (H13 class particle filter) filters the ultra-fine particles and contaminants out of the air so that the air is fully non-hazardous and can be circulated back into the work area or, depending on the application, diverted outdoors through a line.

FPV series

Area of application

Pre-filtering of dry dusts such as those from the milling, drilling, grinding, or laser processing of materials which are not glutinous and which have not been oiled.

A pre-coating of the filter cartridges with Precofix 200 allows even glutinous substances to be extracted, such as those produced during laser processing of plastics, wood and rubber.

Principle of operation

The contaminated air is extracted using specially suited collection elements and transported into the filter cartridge pre-separator by a pipe, a flexible hose or a suction arm. There the dust particles are filtered out by a cleanable filter cartridge. The filter cartridge can be cleaned by hand using a compressed air gun or using the filter cleaning module, on which a cleaning interval can be set. The dust particles separated in this manner are collected in a dust collector and can be disposed of easily and, if required, with little contamination. The cleaned air is then circulated back into the workspace or, depending on the application, diverted outdoors through a line.

Extraction cabinet

Area of application

The system is intended for the extraction and filtering of substances which arise during work in the cabinet. However no explosive or flammable substances may be processed, such as solvents, etc. An ATEX-design extraction cabinet must be ordered for this purpose.

Principle of operation

The work is performed under the extractor hood. A blower is used to extract the dust. The solid substances contained in the contaminated air remain trapped in the pre-filter and particle filter. The gaseous portion is filtered by the optional activated carbon (available separately) and then either circulated back into the work area or, depending on the application, diverted outdoors through a line.

Molecular sieve:

To eliminate or minimise gaseous contaminants or unpleasant odours which can arise from a wide range of production processes, it is advisable to work with molecular sieves, such as activated carbon. Due to the formation of ultra-fine pores and capillary systems, the surface measures up to 1,500 m² per gram of activated carbon. This produces an excellent adsorption efficiency and a large storage capacity, which leads to long service lives.

2.3 Warranty instructions

After the legal guarantee claims the joke Technology GmbH grants 2 years from purchase date or:

Brush motor: 600h

Brushless motor: 5000h

GL-Series: 10000h

JF 5: 4000h

Warranty for all material damages that are not caused by inappropriate use, normal wear or false service.

Cyclone, the dust container and fittings are excluded from the warranty as wear parts.

The opening of the motor unit or any repair activities done by none authorized persons will automatically lead to the cancellation of the warranty.

The device has been designed, tested, and approved according to the appropriate European and National rules and regulations.

Our declaration of conformity is attached to this operator's manual. No alterations or modifications of any kind may be performed on the device. Otherwise the warranty will be cancelled.

The unit may only be used as specified by these operating instructions and for the purpose given in them. Consequential costs, loss and damages are not covered by the manufacturers responsibility if the unit has been used not in accordance to the given manual.

3 **Transportation**

The filter system is delivered upon a palette and can be transported further on. Transportation must be performed by a suitable means of transportation (fork lift, hand lift etc.). The packaging must not be loaded with further weight.

- Packaging must not be exposed to environmental influences
- Temperature for transportation and storage: -10 to +50°C (max. 70°C / 24h)
- When loading, the unit's **centre of weight** must be considered

When transporting the system without original packaging or with changed packaging, it must be taken care for optimal securing and protection from damages. The respective safety regulations are to be observed.

When using the crane eyes, the following points are to be observed:

- Only the delivered joke crane eyes may be used
- Fastening of the load handling device must be done according to the short manual which comes with the crane eyes



Warning! Follow the safety instructions given in the short manual which comes with the joke crane eyes

4 Installation, Initial Operation

4.1 Introduction

In different industrial machining processes, a number of pollutants and particle sizes are generated. A joke extraction and filtration system will serve for removing the particles from the place of generation in order to protect e.g. a laser lens, but also to prevent health hazards of the staff.

Due to the systems' modular construction it becomes possible to adapt the filter equipment to the application case. In order to provide efficient filtering, leak tightness of filter modules and pipe connections is to be observed already during installation.

When using a molecular filter (activated carbon filter), its suitability for the application case and regular checks are to be considered.

4.2 Unpacking

The extraction and filtration system is usually delivered upon a palette and secured with straps and, if necessary, other fastening elements.



Warning! Observe the instructions given in chapter Transportation

- First, place the palette on a flat, suitable plane
- Loosen the straps and possible other fastening elements
- Remove the transparent protection film
- Dependent on device size and filter equipment, the systems are packed in different ways. Smaller devices are packed in a paperboard container. Larger devices are packed in two paperboard containers.
- **Packaging in one paperboard container:**
 - Carefully open the cardboard box at the top side. Be careful not to damage the system's surface
 - Turn the device upside down (take care not to damage the surface). Depending on its weight, you should do this with several people
 - Pull off the cardboard box and remove the polystyrene parts
 - Replace the system back on the casters
- **Packaging in double paperboard container:**
 - First, pull off the outside cardboard box
 - You can now lift the device out of the inside cardboard box or cut its edges to push the device out.
 - Remove the polystyrene parts
- **Caution!** Depending on system size and weight, you should do this with several people
- Remove the packaging according to the effective regulations

FP210-215, FPV200-202, LN600 series, GL20-30, OEN 700 and Extraction cabinet series:

FP210-215, FPV200-202, LN600 series, OEN 700 series and extraction cabinet are delivered upon the palette without cardboard box.

- First, place the palette on a flat, suitable plane
- Loosen the straps and possible other fastening elements
- Remove the transparent protection film and cardboard containers
- Carefully lift the system off the palette
- Necessarily observe correct securing of the system at the load handling device
- **Caution!** Depending on system size and weight, you should do this with several people
- Remove the packaging according to the effective regulations



Caution! Do only use original crane eyes, observe enclosed safety instructions!

4.3 Installation



Warning: This is a protection class 1 device and must be connected to the protective earthing conductor. To connect the system to the power supply, you must therefore use the included power cable or an approved power cable that is identical in construction. **The power plug must remain accessible.**

The filter unit is ready to be plugged in when it is delivered. It may only be connected to the intended voltage (see nameplate).

Installing the system

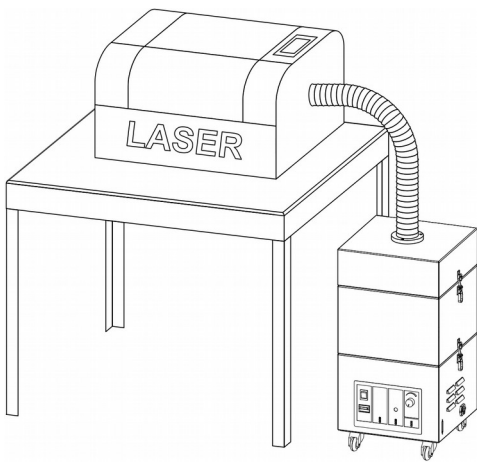
- First, follow the steps described in the “Unpacking” section.
- Place the device on a clean, flat surface (observe the ambient conditions defined in the “Operation” section).
- The ambient air must not have too much dust content. Otherwise, the turbine can pollute the air. If in doubt, contact your local authorities.
- Secure the device (e.g. pull the wheel brake or for the FP200 series, secure to the ground using the feet at the bottom); make sure that the system is standing securely especially if there are mounted units with large levers (e.g. collection elements installed on the system) and install additional fixing/locking devices (floor anchors, or similar), in case of doubt. In all cases, observe the company regulations at the installation location.
- The ventilation slots for bypass cooling must not be covered.
- Connect the remote control line to the interface (see Section 8), if necessary.
- In the case of devices in the FPV series, the extraction and filter system to be installed downstream must be correspondingly dimensioned.
- The filter cartridge systems must be connected to the appropriate compressed air supply.

Specification:

4 Installation, Initial Operation

FP130/150/FP150 Dental	FP210-215, FPV200-202
1.5 - 2 bar	3 - 4 bar
Dry and oil-free compressed air, external supply with an approved compressed air hose. The airflow (l/min) of the compressor must enable the compressed air tank to fill in approx. 3 sec.	

- Connect the device to the mains supply (the mains line must always be accessible).
- Use the “On/Off” switch to switch the device on or off.



The diagram is an example showing how an LN230 extraction and filter system is connected to a table laser.

Connecting the collection elements

In most cases, the collection elements or suction arms are supplied in a dismantled state with the system for transport purposes. First check whether all parts have been included in the delivery and have not been damaged during transit.

Suction arm mounted on extraction and filter system

- If it has not already been pre-installed at the factory, the mounting flange and the bracket must firstly be mounted on the system. To do this, remove the system cover from the extraction system (to avoid damaging the filter during mounting). Be aware that when mounting on a FP150 system, shavings may fall into the electronics. If in doubt, contact your regional representative office.
- The suction arm can now be attached to the mounting flange.
- Make sure that the system as well as the mounted suction arm (due to the lever) are stable; additional fixing/locking devices may be necessary (floor anchors, or similar).
- Be aware that if the extraction level through the suction arm is too high, there may be a whistling sound at the suction tip. If this is the case, turn down the extraction level slightly on the system.



Suction arm mounted on a work bench

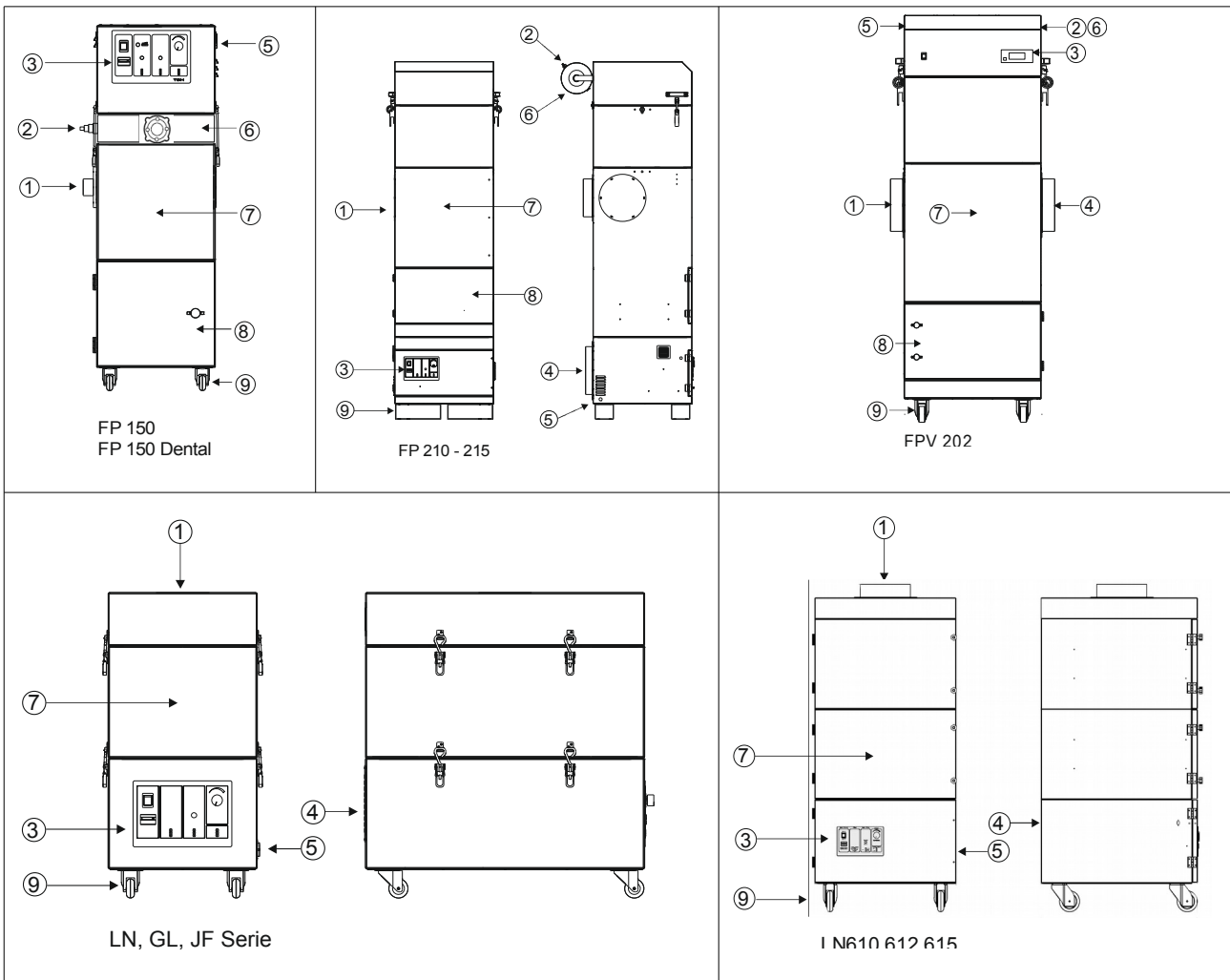
- To mount a suction arm on a work bench, firstly secure the mounting bracket at the required position on the work bench.
- You can now secure the mounting flange on this mounting bracket.
- The suction arm can now be attached to the mounting flange.



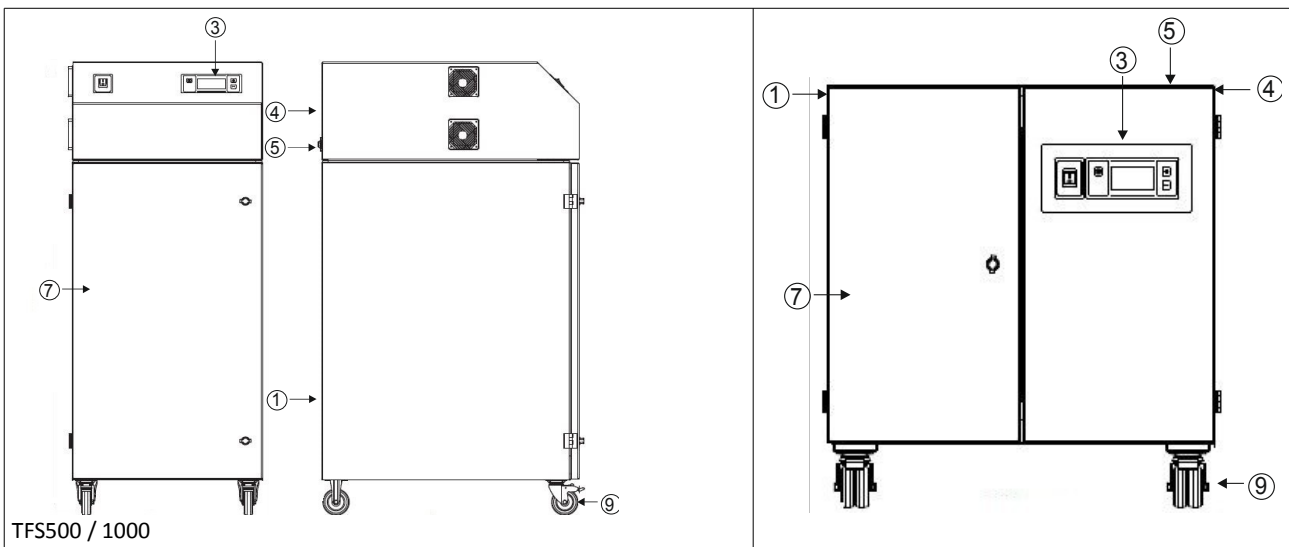
Fixed pipes / assembly

- Your regional representative will happily provide you with support in planning your piping system using hoses or spiral pipes. You will therefore be sure that all the necessary parts have been ordered.
- Make sure that there are no leaks in the piping, so that potentially dangerous substances do not escape.
- If the filters are not inserted until installation, make sure that they are properly seated (are all of the seals pressed well?).

4 Installation, Initial Operation



4 Installation, Initial Operation



1	Inlet opening
2	Compressed air supply for filter cartridge cleaning (observe specification).
3	Control panel
4	Exhaust air opening (on FPV series systems: connection for the downstream extraction system)
5	Power supply, interface

6	Compressed air tank
7	Filter housing with saturation filter / filter cartridge
8	Dust collector
9	Wheels / machine foot / anti-tipping device depending on type of system

Installing the cyclone separator:

Caution: During startup as well as after emptying the cyclone separator, the dust collector is very light and you must therefore pay special attention to ensure that the separator is in a safe position.

- First perform the steps from **4.3 Installation** to install the extraction and filter system. Collection elements are not yet connected.
- Then place the cyclone separator next to the extraction and filter system. Please ensure that the cyclone separator is in a safe position.
- Then, if desired, insert a dust bag into the cyclone separator (see Section **6. Maintenance**)
- Then connect the cyclone separator to the extraction and filter system using the included hose set (connection on top)
- Now it can be connected to the collection element or similar component. Please connect the optionally available hose to the tangential connection of the cyclone separator (connection on the side) for this purpose.
- The system is now ready for operation.

4 Installation, Initial Operation

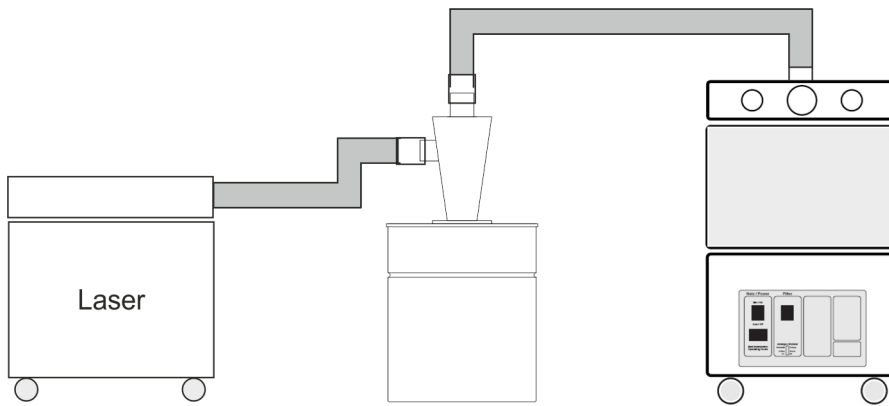


Image 2: This image shows an example of how to connect a cyclone separator.

The cyclone separator is used to separate large dust particles $> 10 \mu\text{m}$ and protect the downstream particle filter of the connected extraction and filter system. The cyclone separator is not monitored with the “Filter full” message; therefore the fill level of the dust collector must be inspected at regular intervals depending on the application. **The dust collector may not be filled more than halfway.**

4.4 Startup

- First perform the steps in the “Installation” section.
- Make sure that the system is stably positioned, and check the piping.
- Check that the system is correctly connected to the power supply. The 400 V power supply must have a neutral wire (because the system operates with 230 V control voltage). Pay attention to the rotary field when making the connection.
- All filters in the system must be installed properly.
- Use the power switch to switch on the system.
- The display on the front of the system starts after a slight delay (self-test).
- The system starts automatically. When using the interface, the interface's signal takes precedence.
- The speed of the turbine or the fan can now be changed using the +/- buttons or via the interface.
- In case of problems when starting up the system, see Sections 5 and 7.

5 Operation

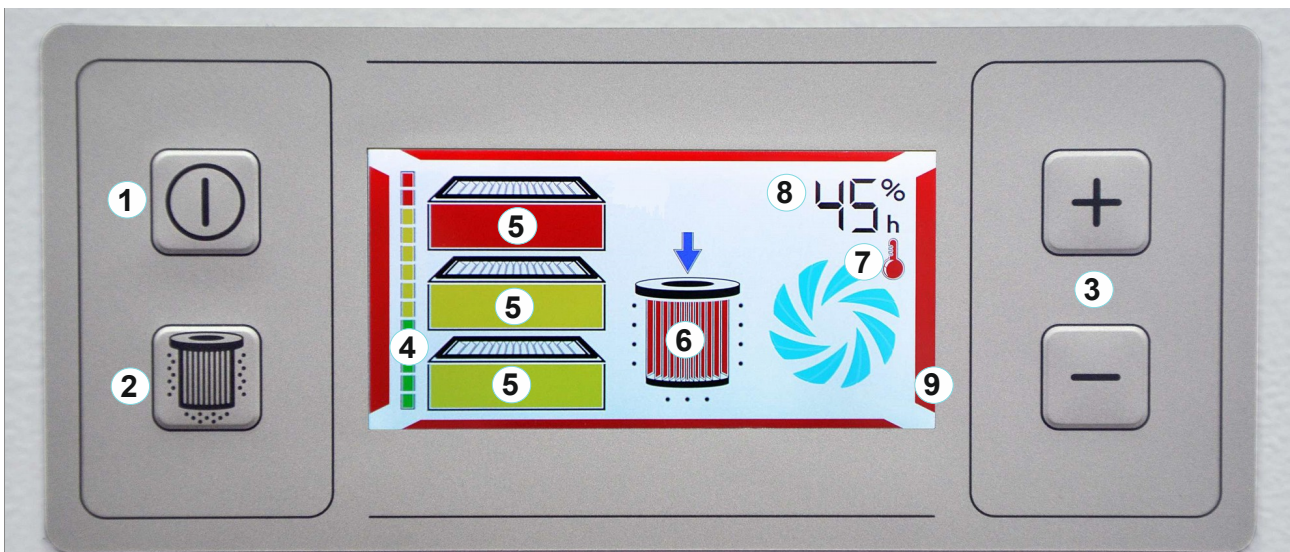
The extraction and filter system must only be used for the extraction of the substances described in these instructions. During operation, the condition of the filters must be checked regularly.

Operating, ambient, storage and transport conditions		
Storage and transport temperature	°C	-25 to +55 (max. 70 C / 24 h)
Working temperature	°C	5 to 40
Max. relative humidity	%	80 without condensation Damaging effects from possible condensation are prevented by special bypass ventilation.
Use		Only indoors, dust content of ambient air must not be too high
Max. height above sea level	m	2000
Operation	-	Extraction level of the system can vary by $\pm 10\%$.
	-	If the system is not constantly supplied with a run signal (Pin7+8) via the interface, it may switch to standby mode if there is a malfunction. The system can be switched back easily to "Run" via the front panel.
	-	If you are using the RS232 interface, an EMC-tested adapter must be used to ensure correct functioning.

5.1 Control elements

5.2 Operation

Manual operation





The diagram shows the front panel with all of the display elements.

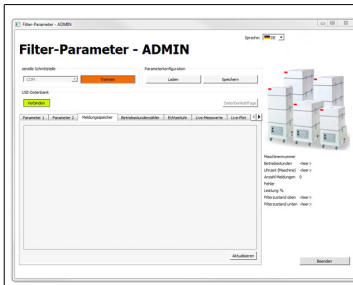
5 Operation

Pos.	Description
1	The system is switched on using the Run/Standby button. (The main switch must be switched on.)
7	The system starts and indicates the "Run" mode by means of the turning turbine wheel in the display.
3	The extraction level of the system can be set using the + and – buttons.
8	The extraction level is displayed at the top right-hand corner. The display switches between the current operating hours and the extraction level as soon as you press one of the +/- buttons.
4	The status of the filter can be easily monitored via the filter saturation indicator. The total filter saturation of all the installed filters are displayed together.
5	The filter status indicator shows you quickly and easily which of the filters needs to be exchanged (number of filters is dependent on the system).
6	Filter cleaning activated (Activation dependent on cleaning mode, only on systems with filter cartridge)
2	Button for manual activation of filter cleaning (only on systems with filter cartridge)
7	Display for temperature fault
9	General indication of system faults by means of red frame elements

Operation via interface

 <p>The image shows a white rectangular remote control interface unit. It has a coiled cable at the top. The front panel features a 'Filter' indicator with an 'OK' button, a 'Start / Stop' button with a power symbol, and a 'Drehzahl' (speed) knob. There are also 'Elev. ON' and 'AUS/ OFF' indicators.</p>	<p>The system can be controlled via remote control.</p> <p>The following functions are available:</p> <ul style="list-style-type: none"> • "Filter saturated" (Filter gesättigt) display • Switching between Run/Standby • Speed control
 <p>The image shows a black interface cable with a metal connector on one end and a multi-pin connector on the other.</p>	<p>The system can be controlled via the interface. For details on the interface assignment, see "Interface" section.</p> <p>The following functions are available:</p> <ul style="list-style-type: none"> • Filter full /Filter full inverted • Run/standby • Speed monitoring • Temperature message • External speed control • Collective fault • Cleaning mode activation <p>(For the scope of functions of your system, see interface options)</p>

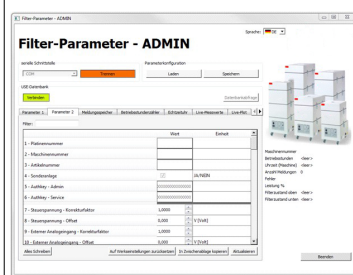
5 Operation



Message memory access.

Access to the message memory of the system is possible via the interface on systems in the LN, GL and FP series.

(For the necessary software and adapter cable, see “Spare parts”)



Individual parametrisation according to specific application.

Systems from the LN, GL and FP series can be adapted to individual customer requirements via the interface.

The following functions are available:

- Front panel on/off
- Min./max. power settings
- Fault shut-down on/off
- Select cleaning mode (FP systems)
- Select shut-down cleaning (FP system switches to cleaning mode in standby)
- System post-run

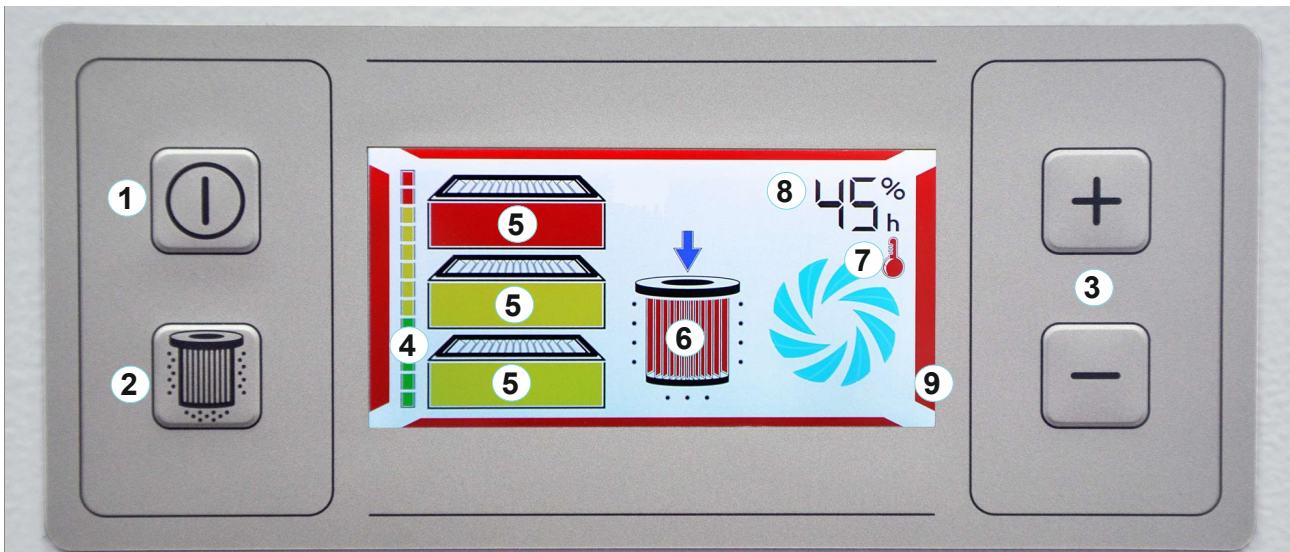
(For the necessary software and adapter cable, see “Spare parts”)

Interface options:

	BF5, BF9, BF10, BF100-1200	LN230, LN260, LN265, LN600-Serie	FP150, FP211, FP213	GL20, GL30, GL230, GL265, GL400, CR-Serie	TFS500 TFS1000	OEN150, OEN155, OEN700-Serie
Filter full	X	X	X	X	X	X
Filter full inverted	X	X	X	X	X	X
Start / Stop	X	X	X	X	X	X
Jumper run	X	X	X	X	X	X
Speed OK	-	X	X	X	X	X
Temperature fault	-	X	X	X	X	X
External speed control	-	X	X	X	X	X
Collective error	-	X	X	X	X	X
External cleaning activation	-	-	X	-	-	-

The connection assignments can be found in the description of interfaces in Section 8

Front panel

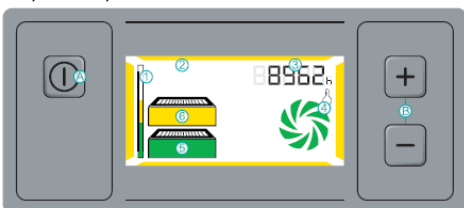


The diagram shows the max. equipment for the system (if there is a fault) as an example.

- | | | | |
|---------|---|---------|---|
| Pos. 1: | Run/Standby button | Pos. 6: | Filter cleaning status message
(only on systems with filter cartridge) |
| Pos. 2: | Manual activation button
Filter cleaning
(only on systems with filter cartridge) | Pos. 7: | Fault message display
Motor/Temperature |
| Pos. 3: | Extraction level control | Pos. 8: | Power setting / operating hour meter display |
| Pos. 4: | Filter saturation indicator
(shows the filter saturation for all filter stages installed
in the system together) | Pos. 9: | System fault indicator |
| Pos. 5: | Filter status indicator
(shows the filter status of the individual filter stages,
used to quickly decide which filter must be
exchanged) | | |
| Green: | Filter OK | | |
| Yellow: | Check filter status indicators (Pos. 6) – place order for
filter, if necessary | | |
| Red: | Max. filter saturation reached – system
switches off – check filter status indicators (Pos. 6) | | |

Filter status indicator (Pos. 6) dependent on filter equipment and system series:

TFS, LN600, OEN700-Serie series:



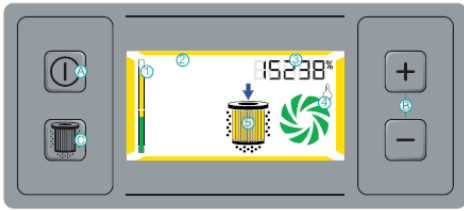
Systems with individual filter monitoring:

- TFS500 / 1000 Standard
- TFS500 / 1000 Plus
- LN610 TS/TSA
- OEN710

5 Operation

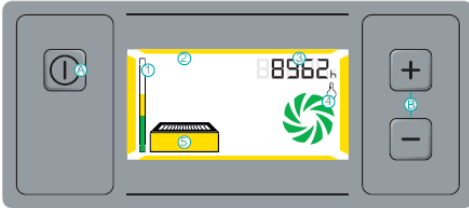
FP series:

Individual filter monitoring not available



LN, GL, JF, CR series:

Individual filter monitoring not available



Activated carbon filter equipment only:
(Filter equipment "A")

Filter display deactivated
(activated carbon filters are not monitored)

Systems that do not have individual filter monitoring show an individual filter at Pos. 5/6 to represent the entire filter equipment. The filter saturation can still be read off at the display, Pos. 1.

6 Maintenance



Danger! Exchange of turbines or electric components is to be carried out by authorised personnel or joke service only! Devices with brushless motors are maintenance-free.

joke extraction and filtration systems are equipped with one of three different motor concepts. Brush motors are used for inexpensive solutions with short daily operation time. Brushless turbines are the most common motors. They offer maintenance-free continuous operation, high performance and moderate costs. The third concept is a high performance blower providing high suction performance and low noise level.

Brush motors have to be exchanged after 600-1000 operation hours (significantly dependent on the application case). This shows by automatic shutting down of the turbine.

6.1 Cleaning the Device



Caution! For cleaning the device, the respective protective equipment is necessary to prevent contamination with potentially health-damaging substances

- Before cleaning the device, it must be switched off and disconnected from the mains
 - The housing is coated with a resistant varnish. A damp cloth and common household cleaner will suffice for cleaning.
 - Do not use solvents!
- CR series devices or standard V2A systems can also be cleaned with disinfectants and alcohol according to the cleaning guidelines
- Take care that no water comes in contact with the electrical components or through the ventilation slots
 - In case you take off filter modules for cleaning, necessarily take care to not damage the gaskets and of good gasket seating when starting the system again
 - Dry everything with a cloth

Caution! Do not clean filters! Beating or blowing with compressed air will destroy the filter medium. Pollutants will contaminate the ambient air.

Exception: Filter cartridges in FP series systems

6.2 Filter saturation indicator and filter replacement

Caution: Each filter stage must be checked regularly (at least once per week) and if necessary replaced to ensure a constant extraction level and prevent damage to the system. Only replace filters with the extractor switched off and while wearing appropriate protective clothing.

Note:

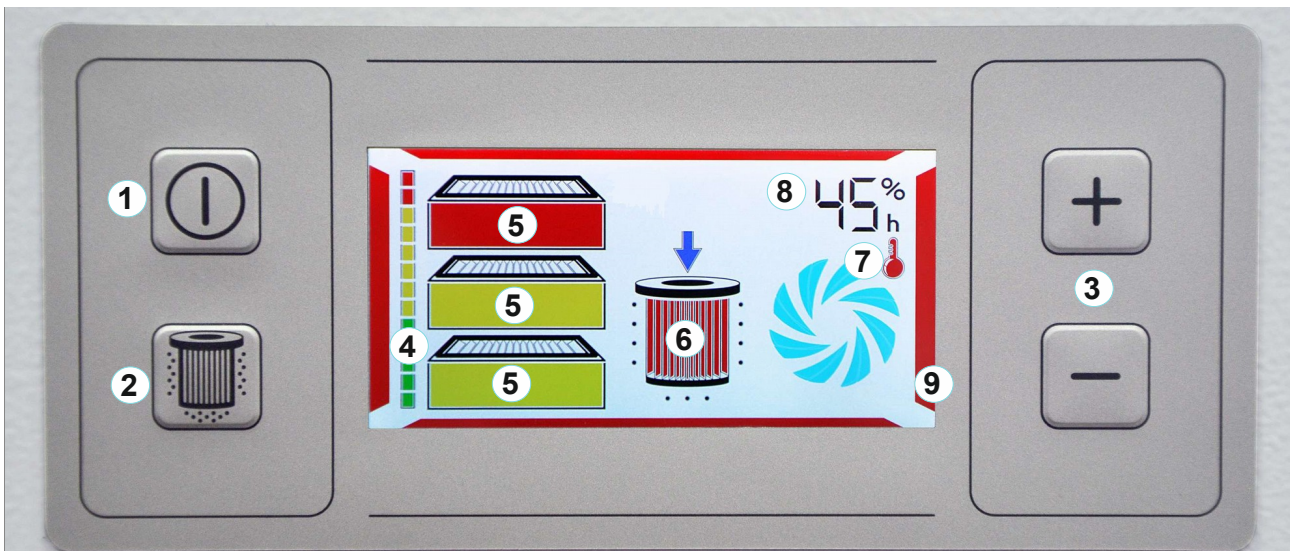
- Particle filters must not be cleaned! They are replaced only!
- Activated carbon/BAC filters must be inspected regularly and replaced. They are **not** monitored by the filter monitoring of the system - recommendation min. replace once a year.

Filter saturation indicator:



Caution: Only replace filters using appropriate protective clothing and safety equipment.

LN, GL, TFS, FP, FPV202, JF, OEN series:



Filter saturation indicator (Pos. 4):

Shows the filter saturation for all filter stages installed in the system together

- Green: All filters OK
- Yellow: Check filter status indicators (Pos. 5) – place order for filter, if necessary
“Filtervll” (Filter full) message via interface once the last yellow stage has been reached
- Red: Max. filter saturation reached – system switches off – replace filters
The filter status indicators (Pos. 5) show which filters have to be replaced:
Red → replace
Yellow → check, if necessary, replace
Green → OK

Filter status indicator (Pos. 5):

Shows the filter status of the individual filter stages installed (dependent on system –see “Operating elements” section), used to quickly decide which filter must be exchanged.

Green:	Filter OK
Yellow:	Place order for filter – replace filter, if necessary
Red:	Replace filter

Supplement, FP series:

For descriptions of the automatic cleaning of the filter cartridges, see “Filter cartridge cleaning” section.

The systems in the FP series are supplied in the factory-set “Differential cleaning” mode (except for special systems). In this mode, the filter cartridge is automatically cleaned once the filter pre-warning level (yellow) has been reached to free the filter cartridge of dust build-up.

If required, the cleaning modes can be adapted to the specific application via the interface of the system (as described in the “Filter cartridge cleaning” section).

The cleaning cycle currently in progress is indicated in the display (Pos. 7).

The duration of the cleaning cycle is dependent on the number of filter cartridges installed (e.g. FP150 approx. 2 min).

Additionally, the cleaning cycle can be activated manually using the button (Pos. 8).

Procedure for changing filters:

- Disconnect the power plug.
- Open the filter module.
- Remove filters.
- Assess condition of filters and replace saturated filters with new **original filters**, if necessary.
- Pack the saturated filter into an air-tight dust bag (for item no. see “Spare parts” section) and dispose of it.
- Replace filters.
- Close the filter module.
- Connect the power plug.

If it is necessary to remove the filter modules, you must ensure that the differential pressure nipples are not damaged and the filter modules are correctly put back in place.

Cyclone separator

Caution: The fill level of the dust collector must be checked regularly (at least once a week) and, if necessary, cleaned or replaced to ensure a constant extraction level and to prevent damage to the system. Only empty the collector when the extractor is switched off and while wearing appropriate protective clothing.

Note:

- The fill level of the cyclone separator is not monitored by the “Filter full” message of the extraction and filter

system; therefore it must be regularly checked based on the application.

- The dust collector may not be more than halfway full in order to prevent a decrease in the extraction level or damage to the connected extraction and filter system.



Caution: To clean the device, you must wear appropriate protective gear to prevent contamination by substances that may be harmful to your health.

Procedure for emptying the dust collector:

- Switch off the extraction and filter system
- Remove the suction hoses from the cyclone separator, beware of dust in the lines.
- Loosen the clamping ring on the dust collector.
- Remove the dust bag or empty the container, replace the dust bag if using one
- Close the clamping ring. The clamping ring is asymmetrically shaped and can only be closed in one direction. If you are having difficulty closing the ring, do not use excessive force, but rather check that the direction is correct.
- Connect the suction hoses, see Section **4.3 Installation**
- Switch on the extraction and filter system

6.3 Disposal / shutdown

When filtering out filtrates, contamination of the suction and filtration system and their collection elements occurs with particles which are harmful to health.

If the suction and filter system is taken out of service, care must be taken to ensure safe disassembly and disposal of the system itself, as well as any contaminated components.

Please observe the safety instructions from the chapter "Filter change"!

When disposing of the suction and filter system and the detection devices, it should be noted that the entire filter equipment is special waste. Depending on the contamination in the system and the collection elements themselves, these must also be disposed of as special waste.

When transporting all safety instructions from the chapter Transport must be observed.

Declaration of RoHS / WEEE conformity

The EC directive 2002/95/EC on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS), has come into effect the 1st of July, 2006. It regards the following substances:

- Lead (Pb)
- Cadmium (Cd)
- Hexavalent Chromium (CrVI)
- Polybrominated Biphenyls (PBB)

- Polybrominated Diphenyl Ether (PBDE)
- Mercury (Hg)

joke Technology GmbH declares that our products are produced according the RoHS.

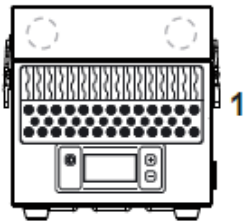
Devices produced by joke Technology GmbH do not correspond to ElektroG 16.05.03 Abschnitt 1 §2 or WEEE Directive 2002/96/Ec Annex IA device categories and are classified b2b devices. This has been verified by registration in the German ear (elektro-altgeräte register).

WEEE-Reg.-No. DE 95487803

6.4 Replacement Filters

Filter equipment JF

JF5



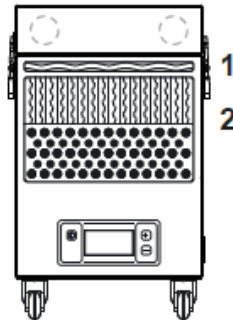
2-step Filter 15119 1
(Particle Filter and a. Carbon Filter)

JF5 A



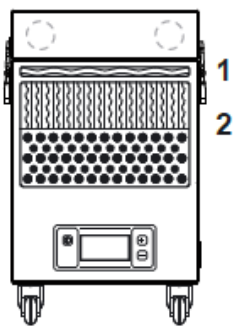
Carbon filter 15715 1

JF9



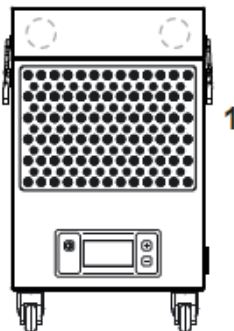
Prefilter 11141 1
2-step Filter 11140 2
(Particle Filter and a. Carbon Filter)

JF10



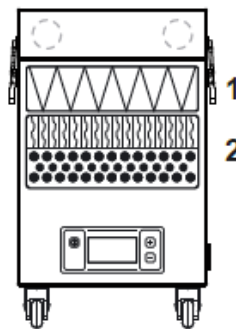
Prefilter 11141 1
2-step Filter 11140 2
(Particle Filter and a. Carbon Filter)

JF10 A



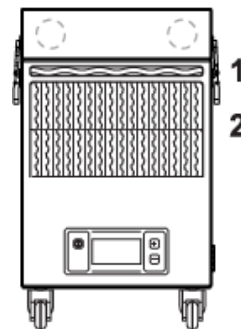
Carbon filter 11143 1

JF10 ZA



Z-Linefilter 15976 1
2-step Filter 15119 2
(Particle Filter and a. Carbon Filter)

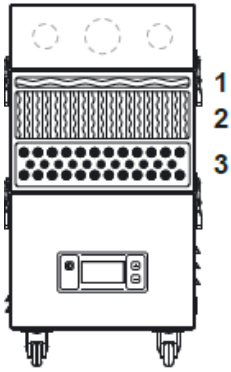
JF10 S



Prefilter 11141 1
Particle filter 11256

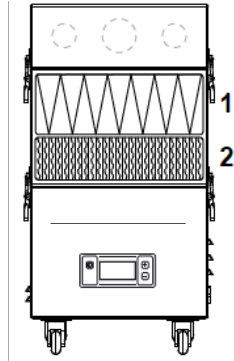
6 Maintenance

JF 100R



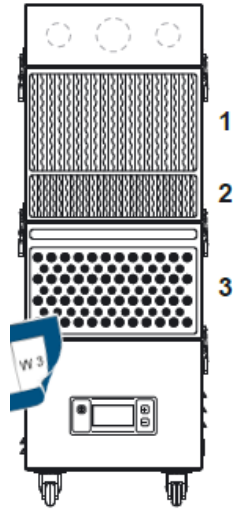
Prefilter	10040	1
Particle Filter	10013	2
A. carbon Filter	10004	3

JF 100R Dental,
Zenotec R-Cyclone



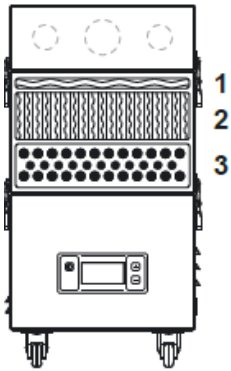
Z-Line Filter	12503	1
Particle Filter	10013	2
A. carbon Filter	10004	3

JF 200R



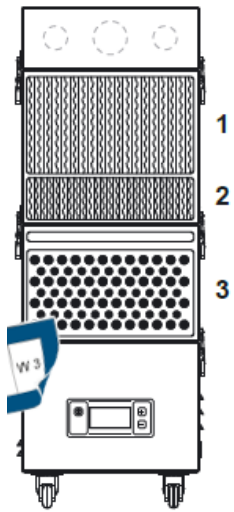
Z-Linepanel Plus Filter	16199	1
Particle Filter	10013	2
A. carbon Filter	10007	3

JF 1000R



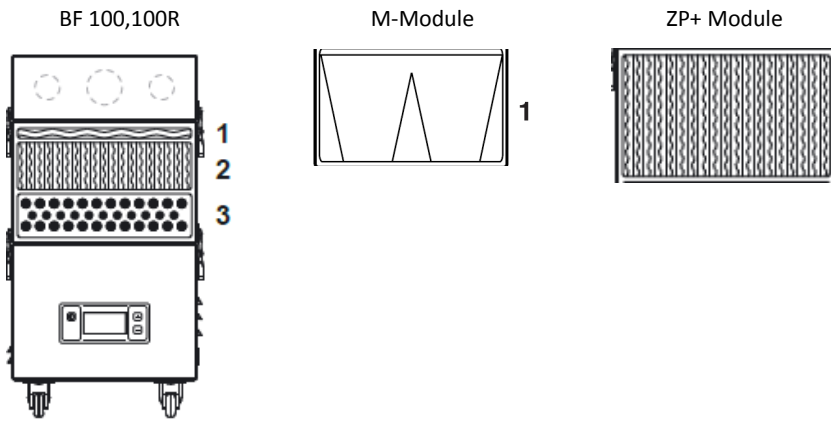
Prefilter	10001	1
Particle Filter	10009	2
A. carbon Filter	10046	3

JF 1200R

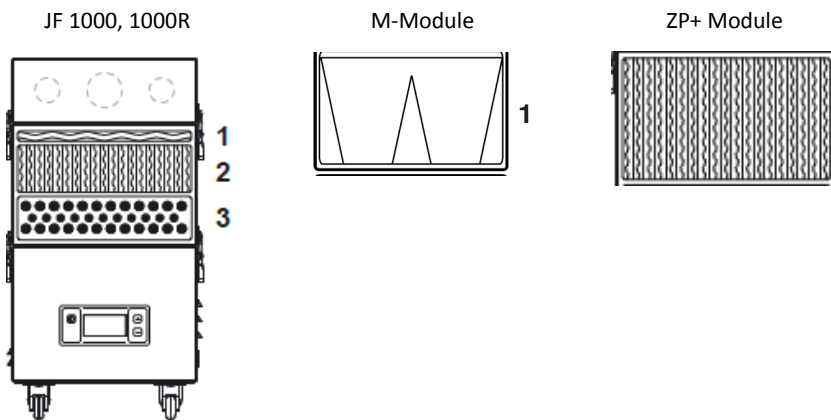


Z-Linepanel Plus Filter	16360	1
Particle Filter	10009	2
A. carbon Filter	12052	3G

USA - Filter equipment JF



Prefilter	12950	1	MP-Tec Filter	13333	1	Z-Linepanel	16199	1
						Plus Filter		
Particle Filter	10013	2						
A. carbon Filter	10004	3						



Prefilter	12980	1	MP-Tec Filter	13310	1	Z-Linepanel	16360	1
						Plus Filter		
Particle Filter	10009	2						
A. carbon Filter	10046	3						

6.5 Spare Parts

Designation	Art.No.	Device				
		BF 100R/ 200R/ 1000R/ 1200R	BF 100R Dental, Zenotec R-Cyclone	JF 5	JF 9	JF 10

6 Maintenance

Line cord 120V, USA	11809	x	x	x	x	x
Line cord 230V, Germany	11693	x	x	x	x	x
Line cord 230V, England	11813	x	x	x	x	x
Line cord 230V, Italy	11805	x	x	x	x	x
Line cord 230V, Switzerland	11816	x	x	x	x	x
Clamp retention for IEC plug	13511	x	x	x	x	x
Front label	16176	x	x	x	x	x
Main switch on/off	13285	x	x	x	x	x
Device plug with fuse container	12705	x	x	-	x	x
Spare part kit turbine 100-240V with retaining plate and seals	16825	x	x	-	-	-
Blower 24VDC	15158	-	-	x	-	-
Blower 100-240V	15769	-	-	-	-	x
Brush motor 230V	15721	-	-	-	x	-
Brush motor 120V	15722	-	-	-	x	-
Control board * 100-240V	16227	x	x	x	x	x
Phase controlled modulator	16596	-	-	-	X	-
Fuse 6AT	11881	-	-	x	x	x
Fuse 10AT	11910	x	x	-	x	-
Dust Bag 10x Set	15711	-	-	-	-	-
Power supply 24V / 50W	15140	-	-	x	-	-

*To ensure the right control board configuration according to your application / device, the serial number has to be declared with the order.

7 Troubleshooting



Caution! In case of failure, do not open turbine module! Danger of electric shock!

7.1 Failure:

- In case of failure, check displays at the front label
- Switch off the device by its main switch and stop your machining process
- Disconnect the system from the mains
- Check filters and the system's fuses and exchange them if necessary
- Use joke quick diagnose or contact your sales partner in case the problem persists

7.2 Accident:

- Remove the injured person from the danger area
- Switch off the device by its main switch and stop your machining process
- Disconnect the system from the mains
- Follow your internal regulations concerning accidents
- Observe the instructions of your company physician concerning the extracted substances

7.3 Quick diagnosis for joke extraction system

	Fault description	Cause	Corrective action
1	System does not start, no display on the front panel	Power cable not plugged in	Plug in power cable
		Fuses not inserted or defective	Check fuses and replace, if necessary
		No voltage at the power outlet	Check fuses
		Power switch set to Off	Turn on power switch
		Incorrect mains voltage	Check mains voltage
		Three-phase supply without neutral wire	Check power supply
2	System does not start, warning signal can be heard, turbine malfunction lit	Turbine failure/malfunction	Switch off the system and contact the manufacturer or regional representative office
	Filter saturation indicator is lit (green+yellow+red)	Filter is completely saturated	With the help of the filter status indicator (depending on the system type), decide which filter must be replaced and order a replacement filter
	Temperature malfunction is lit	Temperature problem	Switch off system and wait for it to cool down Check ambient temperature and extraction hose (blocked, length/cross section), restart system; if the problem recurs, contact manufacturer or regional representative office
3	System does not start, Run/Standby button flashing	System is in standby	Press Run/Standby button
		Interface incorrectly wired Note: Interface is partly only available as an option.	Check interface Pin 7 = + Pin 8 = - At the bridge between Pin 9 and Pin 10, the remote control is dominant; switch the system via remote control to "Run"

7 Troubleshooting

4	System running, yellow warning flashing, filter saturation indicator lit (green+yellow)	Filter is partially saturated (depending on the system type, the filter in question is displayed yellow additionally)	Green range – filter saturation OK Yellow range – order replacement filter Red range – filter completely saturated - replace
5	Speed cannot be changed on the system	Remote control connected, external speed control (Pin 14,15) Note: Interface is partly only available as an option.	External speed control is dominant over the manually set speed on the device
6	Speed cannot be changed via the interface	Speed setting on the system dominant Note: Interface is partly only available as an option.	External speed control is dominant over the manually set speed on the device
7	No/low extraction level, filter saturation indicator does not indicate filter replacement	Intake line blocked, defective, bent or not connected	Clean or replace intake line
		Extraction level not correctly set	Increase extraction level at the speed dial (front) or via remote control
		Motor/control defective	Contact regional representative office
8	System not running or vibrating heavily	Motor bearing defective	Replace motor or contact regional representative office
		Contamination on impeller of the motor	Check filter for leaks or contact regional representative office, if necessary



- | | |
|---|--|
| Pos. 1: Run/Standby button | Pos. 5: Filter status indicator |
| Pos. 2: Button for manual activation of filter cleaning (only on systems with filter cartridges) | Green: Filter OK |
| | Yellow: Check filter status indicators (Pos. 6) – place order for filter, if necessary |
| | Red: Max. filter saturation reached – system switches off - check filter status indicator (Pos. 6) |
| Pos. 3: Extraction level control | Pos. 6: Status message for filter cleaning (only on systems with filter cartridges) |
| Pos. 4: Filter saturation indicator (shows the filter saturation for all filter installed in the system together) | Pos. 7: Display, motor/turbine fault message |
| | Pos. 8: Display, power setting / operating hour meter |
| | Pos. 9: System fault indicator |

FP 130/150 only			
10	System does not clean	Filter differential pressure not yet reached	In the differential pressure monitoring mode, the system is in the green range or at the beginning of the yellow range, everything is OK
		No compressed air at the line or compressed air line not connected	Check pressure or connect compressed air line: 1.5 - 2 bar
		Cleaning module not connected	Connect the cable for cleaning to the socket under the interface
		Cleaning module is defective	Check the cable and solenoid valve for damage, or contact the regional representative office
		Incorrect cleaning settings	The customer can set individual configurations via the interface; if changes have been made here, check the settings for plausibility
11	System cleans continuously at short intervals	Filter cartridges heavily contaminated / service life exceeded	The system tries to reduce the differential pressure of the filter cartridge using several cleaning cycles; when this fails, it means that the filter is completely saturated and must be replaced
12	System cleans at very short intervals and then switches off	Filter service life exceeded / filter completely saturated / can no longer be cleaned	If a set number of cleaning attempts is exceeded, the filter is completely saturated → replace the filter cartridges!
13	Dust escapes from the filter housing	Dust collector is not inserted	Open service door and insert dust collector
		Dust collector leaking	Open service door and check seals; is the dust collector properly tensioned?
FPV200-202 only			
14	System does not clean	System is not switched on	Switch the system on at the power switch
		No compressed air at the line or compressed air line not connected	Check pressure or connect compressed air line max. 4 barH

8 Datos técnicos

DATOS TÉCNICOS	UNIDAD	JF 5	JF 9	JF 10			
Flujo volumétrico de aire para soplado máx.	m³/h	130	220	250			
Flujo volumétrico efectivo máx.	m³/h	20 - 100	30 - 200	20 - 200			
Presión estát. máx.	Pa	1900	14000	6000			
Superficie de filtro	m²	Véase configuración del filtro					
Potencia de motor aprox.	kW	0,04	0,7	0,5			
Tensión	V	100-260	120/230	100-240			
Frecuencia	Hz	50/60	50/60	50/60			
Fusible dispositivo³	-	2x6,3AT	2x10AT/ 2x6,3AT	2x6,3AT			
Clase de protección	-	1	1	1			
Tipo de protección IP	-	IP 30	IP 30	IP 30			
Tipo de accionamiento	-	Duración motor de rotor	Motor de escobilla	Duración motor de rotor			
Nivel de ruido	db(A)	ca. 58	ca. 64	ca. 62			
Interfaz serie	-	Sub-D 25	Sub-D 25	Sub-D 25			
Peso	kg	17	24	24			
Dimensiones (AlxAnxPr)	mm	310x300x300	510x300x300	510x300x300			
Tubuladura de aspiración DN 50	mm	2	2	2			
Tubuladura de aspiración DN 80	mm	-	-	-			

Configuración del filtro										
Tipo de filtro	Clase de filtrado		A			A	ZA			
Filtro AI	G 3	-	-	-	-	-	-			
Filtro previo	F 5	-	-	x	x	-	-			
Filtro de bolsa	F5/F6	-	-	-	-	-	-			
Filtro Z-Line	F6/F7	-	-	-	-	-	x			
Filtro de partículas	H13	-	-	-	-	-	-			
MP-Tech	F 7	-	-	-	-	-	-			
Carbón activo	5L	-	X	-	-	-	-			
	10L	-	-	-	-	-	-			
	12L	-	-	-	-	x	-			
	18L	-	-	-	-	-	-			
	26L	-	-	-	-	-	-			
	45L	-	-	-	-	-	-			
Filtro de partículas H13, Carbón activo	Bajo gran	X	-	-	-	-	X			
		-	-	x	x	-	-			

3 Se recomienda una seguridad del edificio con disyuntor B16

8 Datos técnicos

DATOS TÉCNICOS	UNIDAD	JF 100R / Dental	JF 200R	JF 1000R	JF 1200R
Flujo volumétrico de aire para soplado máx.	m³/h	280	280	280	280
Flujo volumétrico efectivo máx.	m³/h	30-260	30-260	30-260	30-260
Presión estát. máx.	Pa	11000	11000	11000	11000
Superficie de filtro	m²	Véase configuración del filtro			
Potencia de motor aprox.	kW	1,1	1,1	1,1	1,1
Tensión	V	100-240	100-240	100-240	100-240
Frecuencia	Hz	50/60	50/60	50/60	50/60
Fusible dispositivo ⁴	-	2x10AT	2x10AT	2x10AT	2x10AT
Clase de protección	-	1	1	1	1
Tipo de protección IP	-	IP 30	IP 30	IP 30	IP 30
Tipo de accionamiento	-	Motor de escobilla	Motor de escobilla	Motor de escobilla	Motor de escobilla
Nivel de ruido	db(A)	ca. 62	ca. 62	ca. 60	ca. 60
Interfaz serie	-	Sub-D 25	Sub-D 25	Sub-D 25	Sub-D 25
Peso	kg	40	55	70	90
Dimensiones (AlxAnxPr)	mm	700x350x350	1025x350x350	740x350x655	1105x350x655
Tubuladura de aspiración DN 50	mm	2	2	2	2
Tubuladura de aspiración DN 80	mm	1	1	1	1

Configuración del filtro						
Tipo de filtro	Clase de filtrado		Dental			
Filtro Al	G 3	-	-	-	-	-
Filtro previo	F 5	x	-	-	x	-
Filtro de bolsa	F5/F6	-	-	-	-	-
Filtro Z-Line	F6/F7	-	x	-	-	-
Filtro de partículas	H13	x	x	x	x	x
Z-Linepanel Filtro	F 7	-	-	x	-	x
Carbón activo	10L	X	-	-	-	-
	18L	-	-	x	-	-
	26L	-	-	-	x	-
	45L	-	-	-	-	x
Filtro de partículas H13, Carbón activo	Bajo gran	-	-	-	-	-

Condiciones ambientales, de	
------------------------------------	--

4 Se recomienda una seguridad del edificio con disyuntor B16

8 Datos técnicos

almacenamiento y de transporte		
Condiciones de almacenamiento y de transporte	°C	-25 a +55 (máx. 70 °C / 24 h)
Temperatura de trabajo	°C	5 a 40
Humedad relativa del aire máx.	%	80 sin condensación Los efectos nocivos que pueda causar una condensación ocasional se evitan mediante una ventilación bypass especial
Utilización		Sólo en recintos interiores, el aire del entorno no debe presentar una carga excesiva de polvo
Altura máx. sobre el nivel del mar	m	2000


























8.1 Interface

D-sub (25-pin)

Warning: A maximum contact load of 40V/1A applies to all relay contacts.

Subject to technical changes. Not liable for damages arising from incorrect wiring. If you have any questions, please contact your sales partner.

8 Datos técnicos

Interface Sub-D25	Signal	Description
Pin 01 	free	
Pin 02 	free	
Pin 03 	free	
Pin 04  Pin 05  Pin 06 	Pre-warning level, filter full inverted (normally closed) Pre-warning level, filter full (common contact) Pre-warning level, filter full (normally open)	Pre-warning that the filter is approx. 75% saturated - Relay contacts
Pin 07  Pin 08 	Run/Standby (+) Run/Standby (-)	- Switchover between Run/Standby mode - Apply voltage 12-30V DC - Only active when jumper pin 9+10 closed
Pin 09  Pin 10 	Jumper Run/Standby Jumper Run/Standby	- Determines the on-position of the system - Open: Run mode - Closed: Standby mode – prerequisite for control via pin 7+8
Pin 11 	free	
Pin 12 	free	
Pin 13 	free	
Pin 14 	free	
Pin 15 	free	
Pin 16 	free	
Pin 17 	free	
Pin 18 	free	
Pin 19 	free	
Pin 20 	free	
Pin 21 	free	
Pin 22 	free	
Pin 23 	free	
Pin 24 	free	
Pin 25 	free	

Anschlussbeispiele Schnittstelle Sub-D25 / Connection example interface Sub-D25

Achtung ! Für alle Relaiskontakte gilt eine max. Kontaktbelastung von 40V/1A

Technische Änderungen vorbehalten. Keine Haftung für Schäden durch falsche Interpretation bzw. falsche Beschaltung.

Bei Rückfragen wenden Sie sich bitte an Ihren jeweiligen Vertriebspartner.

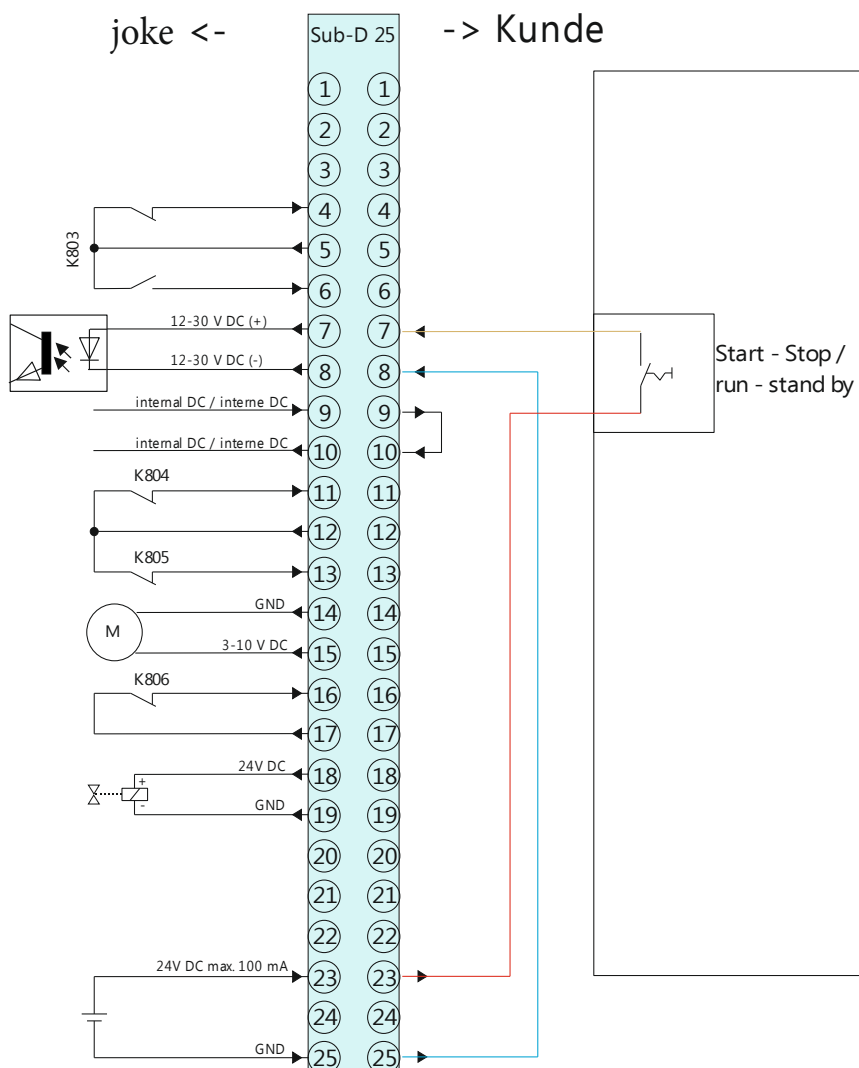
LN-, GL-, FP-Serie

1. Beispiel / Example

- Nutzung der Funktion Start/Stop / Use of function run/standby

Achtung! Für die Nutzung der Start/Stop Funktion ist die Brücke Pin9+10 erforderlich

Attention! For use of run/standby function jumper Pin9+10 is necessary

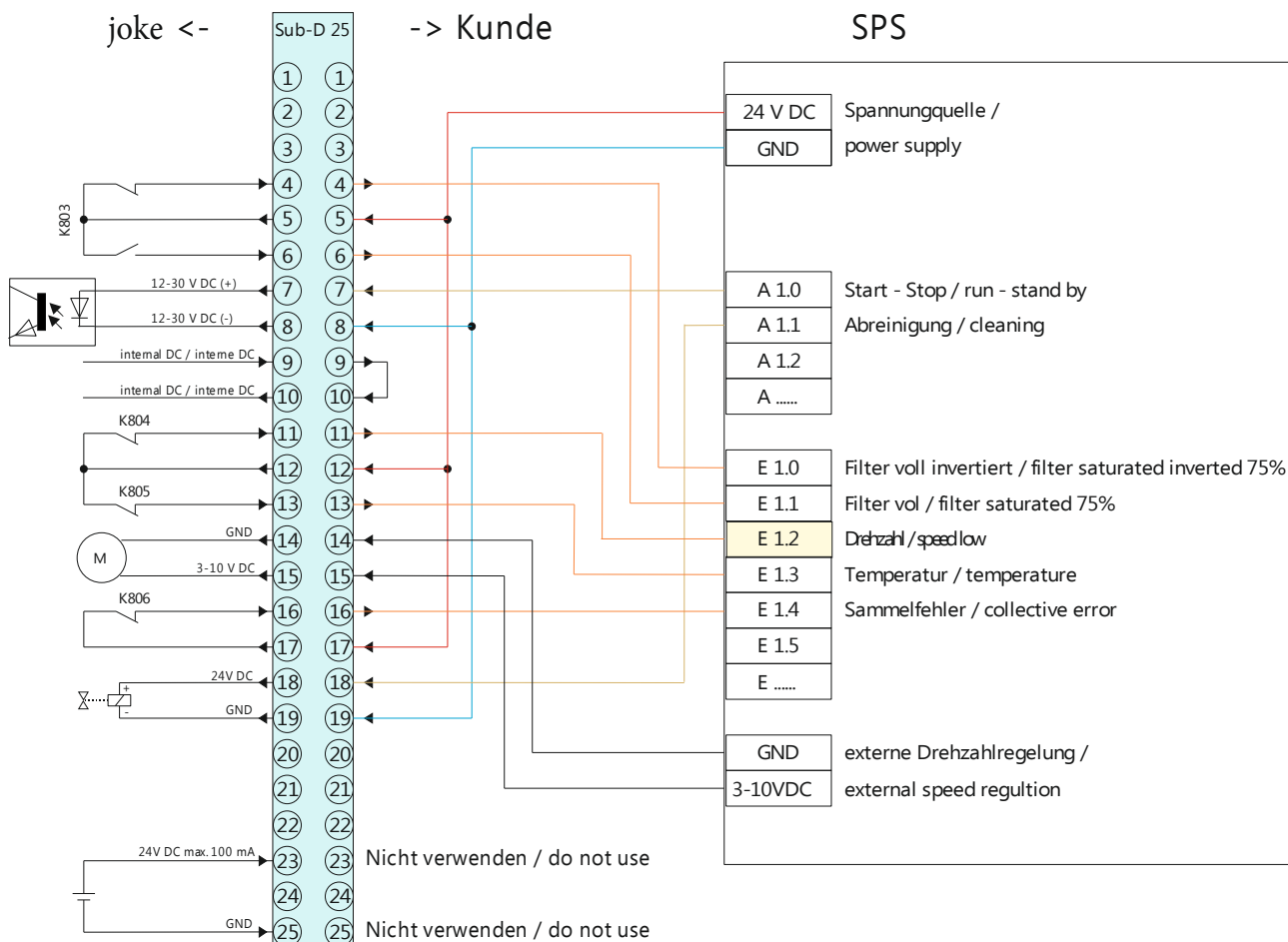


2. Beispiel / Example:

- Ansteuerung der joke Absaug- und Filteranlage über eine SPS durch den Kunden /
Control of joke extraction system via PLC by the customer
- Nutzung aller bzw. nur bestimmter Funktionen möglich /
Use of all or only certain functions possible

Achtung! Für die Nutzung der Start/Stop Funktion ist die Brücke Pin9+10 erforderlich

Attention! For use of run/standby function jumper Pin9+10 is necessary



Pin 23+25 in dieser Konfiguration nicht verwenden!

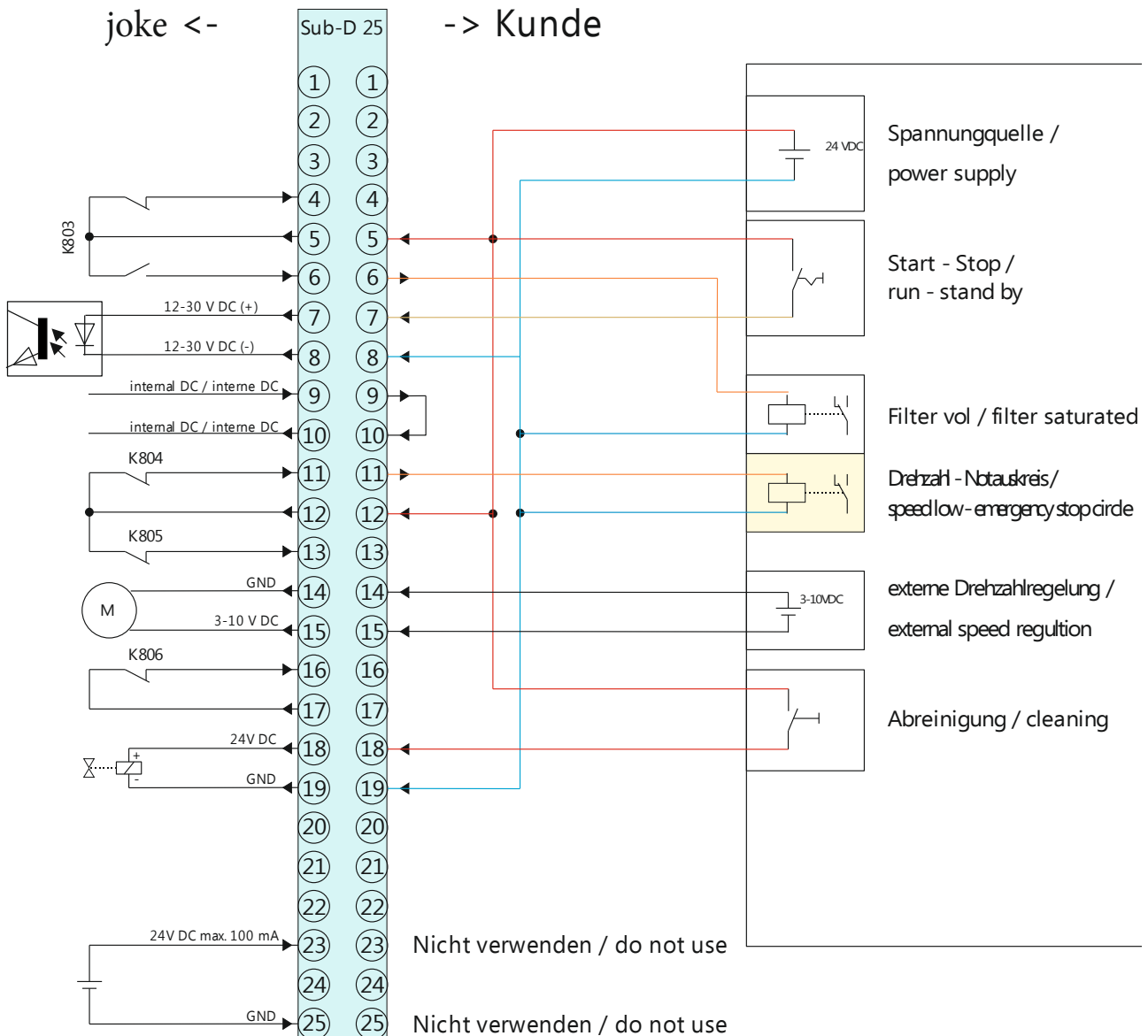
Do not use Pin23+25 in this configuration!

3. Beispiel / Example:

- Ansteuerung der joke Absaug- und Filteranlage ohne SPS durch den Kunden /Control of joke extraction system without PLC by the customer
- Nutzung aller bzw. nur bestimmter Funktionen möglich / Use of all or only certain functions possible

Achtung! Für die Nutzung der Start/Stop Funktion ist die Brücke Pin9+10 erforderlich

Attention! For use of run/standby function jumper Pin9+10 is necessary



JF-Serie

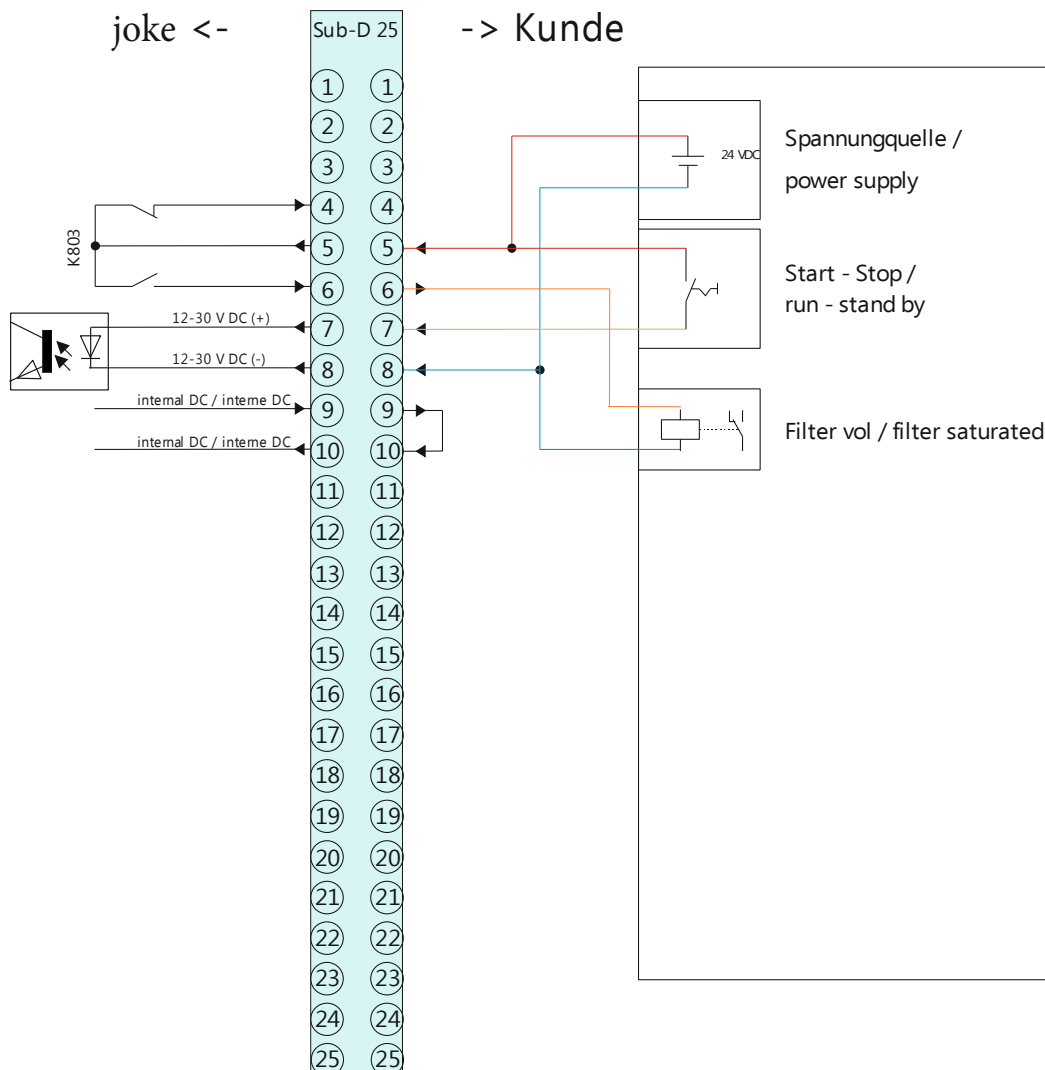
1. Beispiel / Example:

- Nutzung der Funktionen Start/Stop und Filtervoll möglich /
Use of run/standby and filter saturated function possible

Achtung! Für die Nutzung der Start/Stop Funktion ist die Brücke Pin9+10 erforderlich

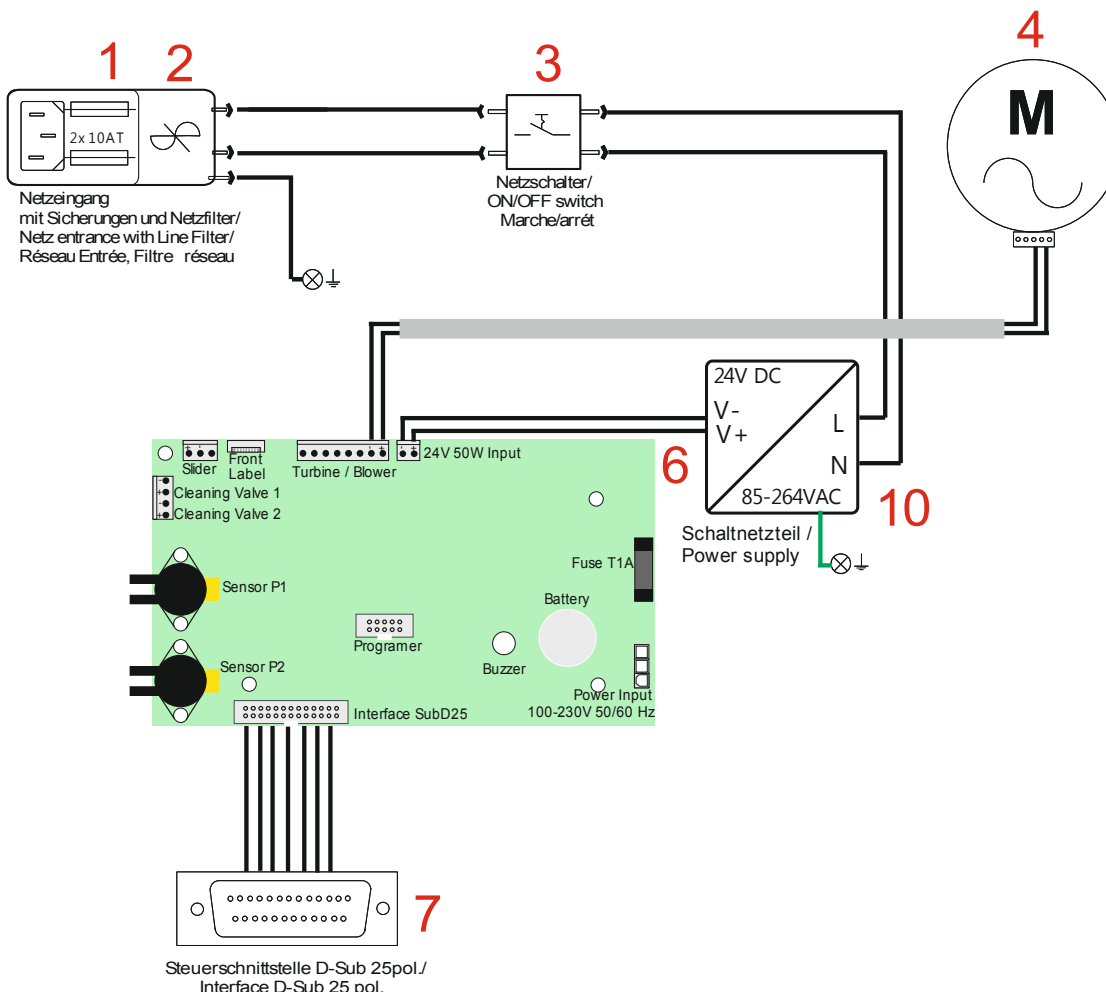
Attention! For use of run/standby function jumper Pin9+10 is necessary

JF-Serie



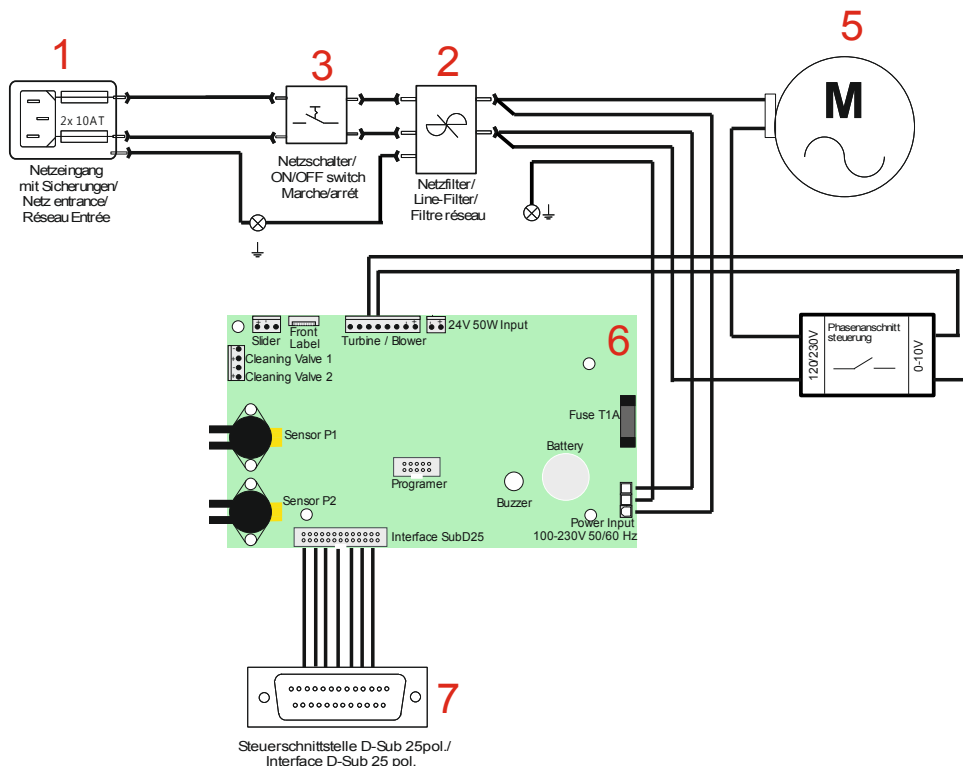
9 *Circuit diagram*

JF 5, BF8



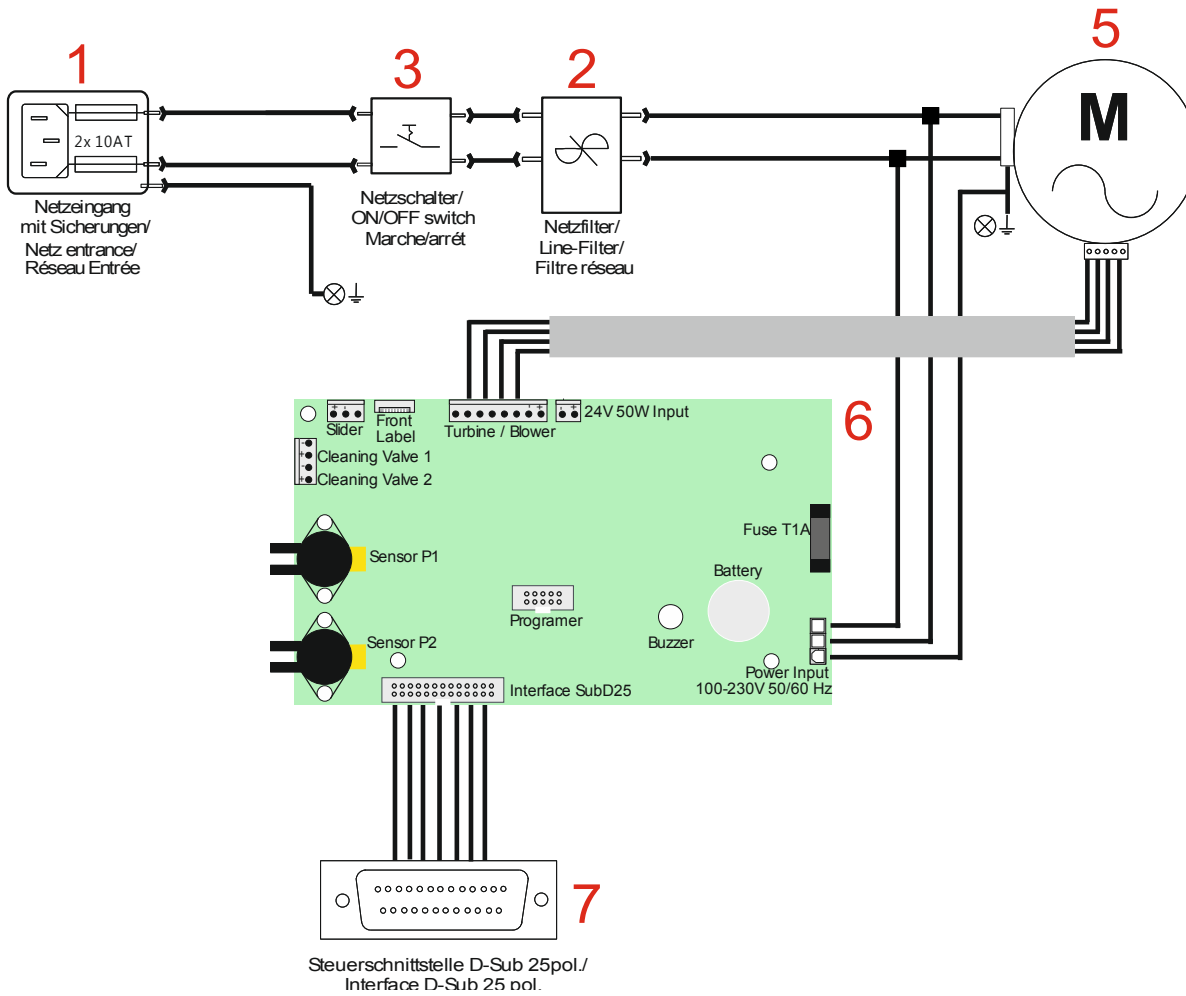
9 Circuit diagram

JF 9



JF 10

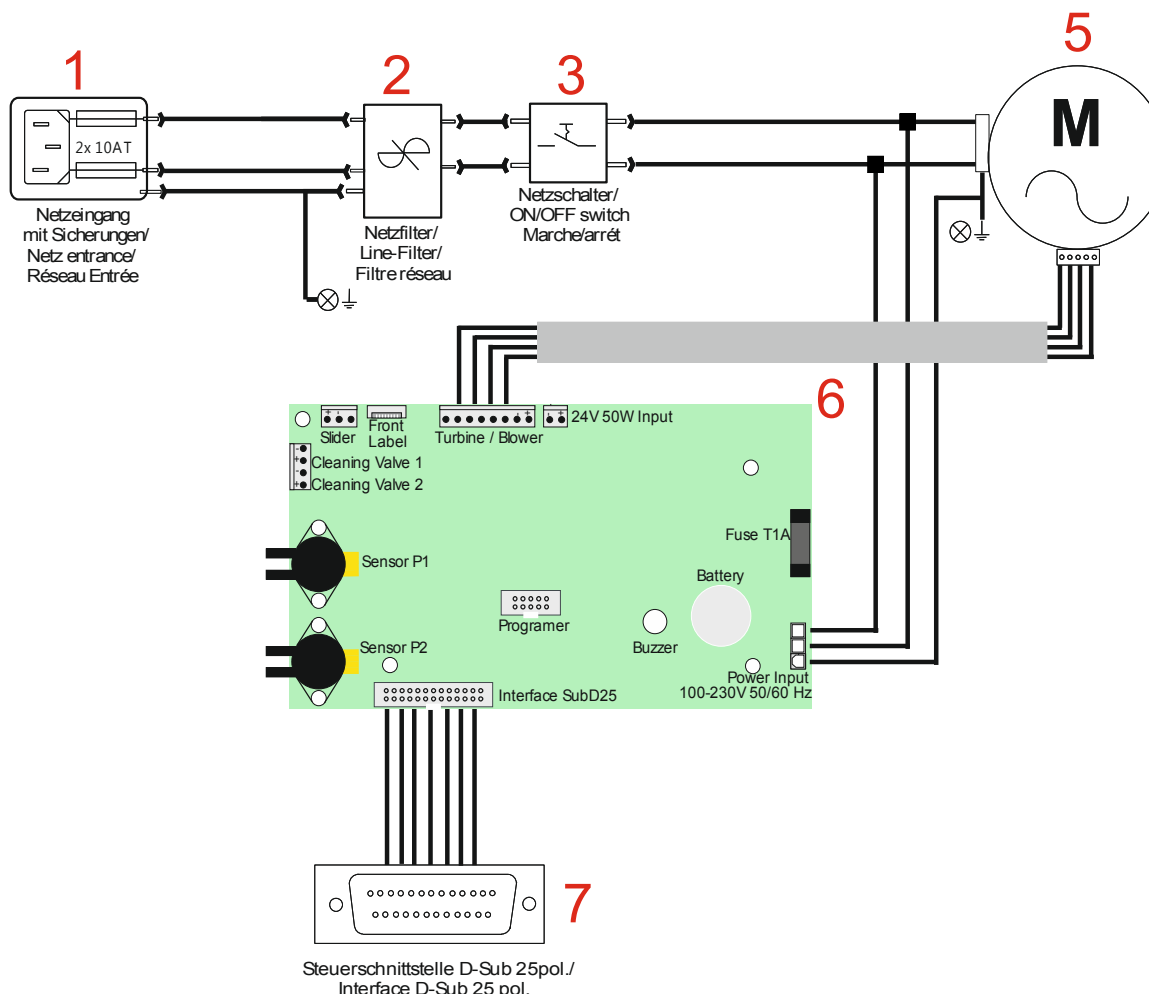
9 Circuit diagram



JF 100, 100R, 200, 200R, 1000, 1000R, 1200, 1200R

JF 100R Dental, Zenotec R-Cyclone

9 Circuit diagram



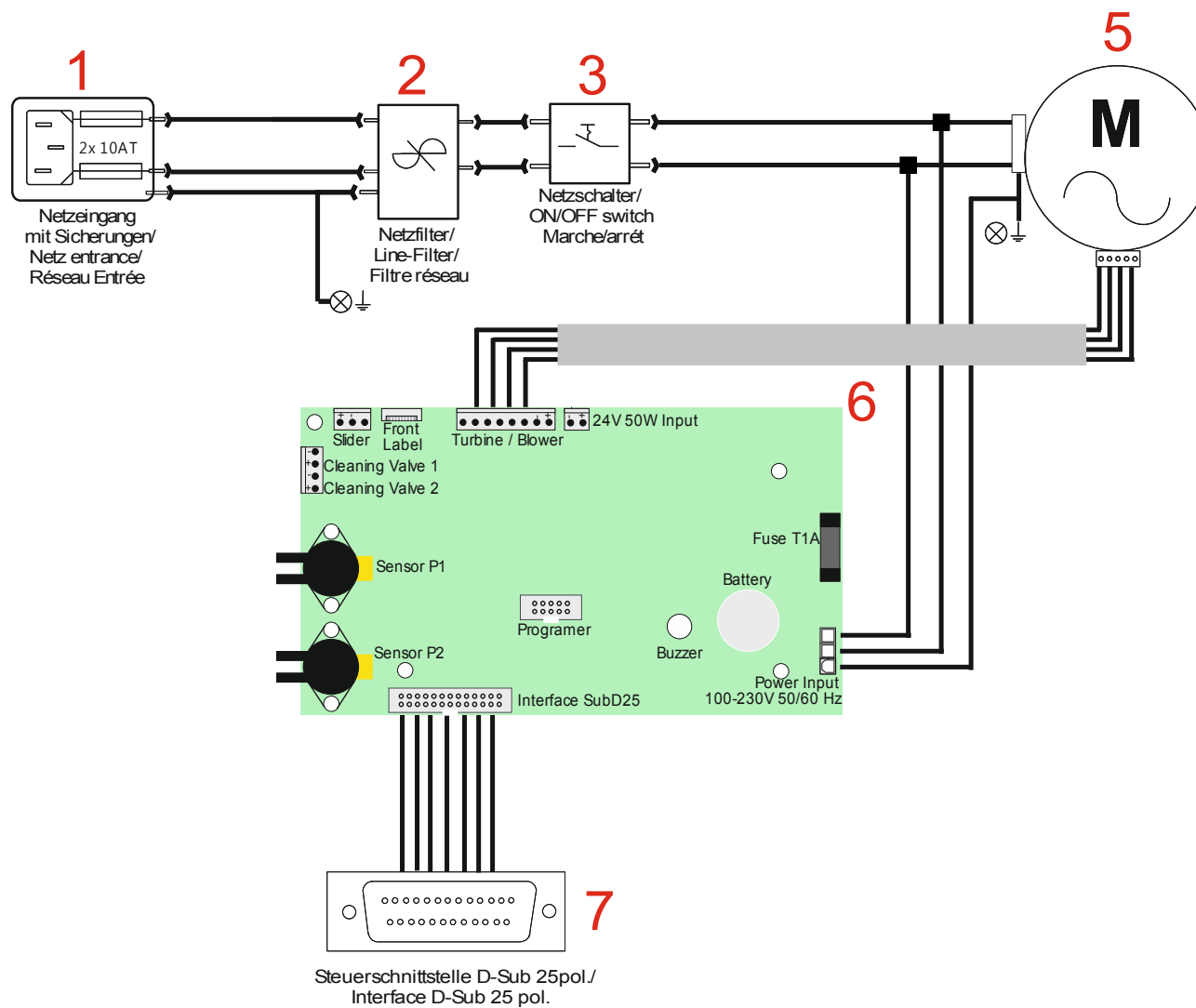
1	2x Sicherung	2x Fuse	2 x fusibles	2 fusibles	2 Fusibili
2	Netzeingangsfiler	Line filter	Filtre entrée du réseau	Filtro de entrada de red	Filtro ingresso rete di alimentazione
3	Netzschalter	Mains switch	Interrupteur d'alimentation	Interruptor de red	Interruttore di rete
4	Betriebsstundenzähler	Hour counter	Compteur d'heures de service	Contador de horas de servicio	Contaore di servizio
5	EC Motor	EC Motor	Turbine EC	Turbina EC	Turbina EC
6	Steuerplatine	Control panel	Platine de commande	Pletina de control	Scheda di circuito di comando
7	Schnittstelle	Interface	Interface	Interfaz	Interfaccia
8	Anzeige Filtervoll	Indicator Filter saturated	Affichage Filtre plein	Indicación Filtro lleno	Indicazione filtro pieno
9	Drehzahlregler	Speed control	Régulateur de nombre de tours	Regulador de número de revoluciones	Velocità governatori
10	Netzteil	Power supply	Bloc d'alimentation	bloque de alimentación	alimentatore

LN 230, 260, 265,

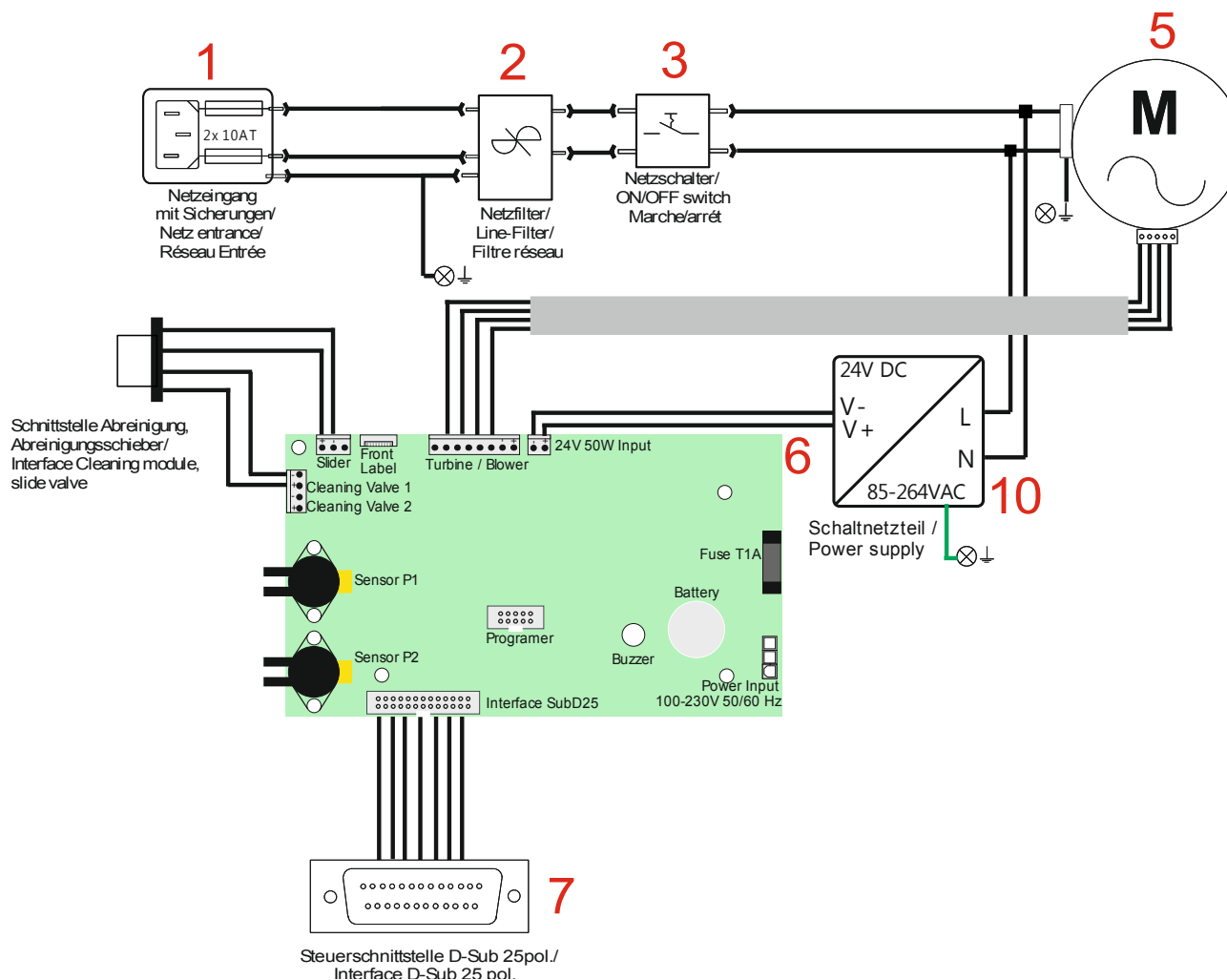
GL 20, 25, 30, 230, 265, 400,

CR- Serie,

OEN 150, OEN155



FP150, FP150 Dental



1	2x Sicherung	2x Fuse	2 x fusibles	2 fusibles	2 Fusibili
2	Netzeingangsfiter	Line filter	Filtre entrée du réseau	Filtro de entrada de red	Filtro ingresso rete di alimentazione
3	Netzschalter	Mains switch	Interrupteur d'alimentation	Interruptor de red	Interruttore di rete
4	Betriebsstundenzähler	Hour counter	Compteur d'heures de service	Contador de horas de servicio	Contaore di servizio
5	EC Motor	EC Motor	Turbine EC	Turbina EC	Turbina EC
6	Steuerplatine	Control panel	Platine de commande	Pletina de control	Scheda di circuito di comando
7	Schnittstelle	Interface	Interface	Interfaz	Interfaccia
8	Anzeige Filtervoll	Indicator Filter saturated	Affichage Filtre plein	Indicación Filtro lleno	Indicazione filtro pieno
9	Drehzahlregler	Speed control	Régulateur de nombre de tours	Regulador de número de revoluciones	Velocità governatori
10	Netzteil	Power supply	Bloc d'alimentation	bloque de alimentación	alimentatore
11	Taster Abreinigung	Button filter cleaning	Bouton filtre depuration	El palpo la limpieza	Compasso lavaggio

10 Konformitätserklärung / Declaration of conformity

Konformitätserklärung / Declaration of conformity

Konformitätserklärung

gem. EG-Richtlinie RL 2014/30/EU Elektromagnetische Verträglichkeit, RL 2006/42/EG Maschinenrichtlinie, RL2014/29/EU Einfache Druckbehälter

Declaration of conformity

acc. to the regulation of European Community RL 2014/30/EU Electromagnetic compatibility, RL 2006/42/EG Machinery directive, RL2014/29/EU simple pressure vessels

Declaración de conformidad

ai sensi della Direttiva RL 2014/30/EU Compatibilità elettromagnetica, RL 2006/42/EG Indirizzamento del macchinario, RL2014/29/EU recipienti semplici a pressione

Wir, Firma / We, company / Déclaration de conformité / Noi, la ditta

TBH GmbH
Absaugtechnik Filtertechnik Umwelttechnik

Déclaration de conformité

selon les directives de la Communauté Européenne RL 2014/30/EU compatibilité électromagnétique et les directives de la Communauté Européenne, RL 2006/42/EG directives de machine, RL2014/29/EU récipients à pression simples

Dichiarazione di conformità

acorde con las directivas de la Comunidad Europea RL 2014/30/EU compatibilidad electromagnética y la directivas, RL 2006/42/EG Directorio de la maquinaria, RL2014/29/EU recipientes a presión simples

Heinrich-Hertz-Str. 8
75334 Straubenhardt
Tel. 07082/9473-0

erklären in eigener Verantwortung, daß sich das Produkt,
declare in our own responsibility that the product,
Le soussigné, représentant le fabricant ci-après,
Declaramos bajo nuestra responsabilidad que,
dichiariamo sotto la nostra responsabilità che il prodotto

TBH Absaug- und Filteranlage
Typ / Type/ Type/Typo:

FP 130 / 150 / 210-215
FPV200-202
LN, LN-CR 230 / 260 / 265 / 610 / 612 / 615
GL, GL-CR 20 / 25 / 30 / 230 / 265 / 400
OEN 150 / 155 / 710
BF 5 / 8 / 9 / 10 / 100 / 100R / 200 / 200R / 1000 / 1000R / 1200 / 1200R
BF 100R Dental / FP 150 Dental / Zenotec R-Cyclone
DT 100
TFS500 / 1000

Maschinen-Nr. / Machine No. / Maquina nº

000000 - 999999

auf welches sich diese Erklärung bezieht, mit den folgenden Normen übereinstimmt:

to which this declaration refers, corresponds to the following norms:

auquel se réfère cette déclaration est en conformité avec les normes et documents normatifs suivants :

a la que hace referencia la presente declaración, corresponde con las siguientes normas:

a cui la presente dichiarazione si riferisce, è conforme alle seguenti norme:

DIN EN 61000-6-4	2011 - 09	Störaussendung / Emission / émissions / emisiones / Emissioni
DIN EN 61000-6-2	2006 - 03	Störfestigkeit / Immunity / immunità/inmunidad/ Immunità
Berichtigung 1	2011 - 06	
DIN EN 61010-1	2011 - 07	Sicherheitsbestimmungen für elektrische Meß-, Steuer-, Regel- und Laborgeräte / Safety requirements for electrical equipment for measurement control and laboratory use / Exigences de sécurité relatives aux équipements à usage de mesure, de contrôle et de laboratoire exigencias de seguridad relativas a los equipamientos eléctricos de medida, de control y de laboratorio / d Requisiti di sicurezza per apparecchiature elettriche di misura, controllo, regolazione e da laboratorio
DIN EN 61000-3-3	2014 - 03	Spannungsschwankungen und Flicker / voltage fluctuations and flicker / fluctuations de tension et du flicker / fluctuaciones de tensión y de flicker / fluttuazioni di tensione e del flicker
DIN EN 60204	2007 - 06	Elektrische Ausrüstung von Maschinen /
Berichtigung 1	2010 - 05	Safety of machinery
DIN EN ISO 12100	2011 - 03	Allgemeine Gestaltungsgrundsätze Risikobeurteilung und Risikominderung /
Berichtigung 1	2013 - 08	Safety of machinery- General principles for design- Risk assessment and risk reduction
		Die Sicherheitsziele der Niederspannungsrichtlinie werden eingehalten

Mit Schweißrauchabscheideklasse „W3“ zusätzlich:

DIN EN ISO 15012-1	2013 - 08	Arbeits- und Gesundheitsschutz beim Schweißen und bei verwandten Prozessen / Health and safety in welding and allied processes /
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Dokumentationsbevollmächtigter: Tim Augenstein
Adresse Siehe Firmenanschrift
Geschäftsführer: Udo Hartmann

20.04.16

