



FILTRATION

**JET BAG
FILTER UNITS**



**Original instructions for
use**









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ABOUT THE INSTRUCTIONS

PURPOSE OF THE MANUAL The instructions are intended for the operator of the installation and for all persons who come into contact with it during its **installation, operation and maintenance**..

VALIDITY OF THE MANUAL This manual is valid for all types of **G&G JET BAG** filter units supplied. Type differences are listed in the technical data.

SYMBOLS USED IN THE MANUAL	SYMBOL	MEANING
		These symbols are meaning " WARNING " and " CAUTION " and indicate facts that may cause serious injury to the user and/or damage to the device. They also draw attention to an important instruction, property, procedure or matter to be observed or noted during the operation and maintenance of the equipment.
		
		The symbol draws attention to important activities to be observed, but which do not endanger health or cause damage to the product.
		The symbol draws attention to useful information related to the device or its accessories.
		The symbol is a reference to another chapter in this walkthrough.
		Warning for filter units installed in explosive environments.

IMPORTANT WARNINGS Read these instructions carefully. Follow the instructions in it exactly to make it easier not only to use the device, but also to ensure its optimal use and long service life.

Do not operate the device until you are thoroughly familiar with all the instructions, prohibitions and recommendations set out in this manual.

The images used in this manual may not always be true; their purpose is to describe the main principles of the device. However, the texts, drawings, photographs and other elements listed here are protected by copyright. Any misuse or unauthorized copying of them is punishable.

The instructions must be considered as part of a device which must not be separated from it. Therefore, keep it for future use.

RELATED DOCUMENTATION In addition to these instructions, there is additional documentation available for the device, provided by the manufacturers of the installed components and included in the delivery. The full list of documentation is given in the **MANUFACTURER'S AND SUBCONTRACTORS DOCUMENTATION** chapter

CONTACT THE MANUFACTURER In practice, there are also unforeseen situations that could not be included and described in this manual. Therefore, whenever you are unsure of the procedure, contact the manufacturer:

G&G filtration CZ, s.r.o.
 Hrubínova 1903/9
 664 51 Šlapanice
 Česká republika

T: +420 725 745 300
 E: vesely@ggf.cz
 W: www.ggf.cz

1 | DELIVERY

PACKAGING AND CONTENTS OF DELIVERY

Due to the dimensions, the filter unit is in most cases disassembled into parts so that they can be placed on the selected transport vehicle.

Dismantled units are placed on standard transport pallets and secured with tape. Parts more sensitive to amming damage are packed with suitable packaging material.



After receiving the device, check that any part or packaging of the device is not damaged and report any damage to the carrier immediately. In addition, check that the delivery is complete and that it matches the order or the packing slip. Notify the supplier immediately of the deficiencies identified.

The following are included:

- transport pallets
- filter unit according to operator specifications, divided into parts
- instructions for use and instructions from manufacturers of selected components
- assemblies of drawings
- fasteners

HANDLING OF THE DELIVERY

Use a forklift or lifting device with an appropriate load capacity to handle the packaged device. The weight of the equipment supplied is indicated on the technical data sheet.

Lift the load with the lifting device and take it to the designated unpacking or storage location



The supplied equipment may only be transported in the position in which it was stored by the manufacturer. Under no circumstances may you transport it in another position – there is a risk of serious damage to the components.

We recommend that lifting equipment and cargo be handled by persons who are appropriately qualified to do so.

STORAGE BEFORE UNPACKING

If you do not unpack and install the device immediately after delivery, store it under the following conditions:

- store the equipment in its original packaging in dry, weatherproof areas that could cause damage to the packaging and deterioration of the condition
- do not remove the device and its part from pallets and do not turn it on its side or lean it at an angle
- do not place any other objects or materials on the packaged device

Recommended properties of the place of storage:

Temperature:	from -5°C to +50°C
Air humidity:	<60%
Air purity:	Dust-free environment
Other:	Dry storage areas



Unpacking and transporting equipment to the installation site is described in the CHAPTER INSTALLATION AND COMMISSIONING.

2 | TECHNICAL INFORMATION

PURPOSE OF INSTALLATION

The filtration device is designed for filtration of air mass with temperature -30 ° C to + 80 ° C in the version without thermal insulation and up to 150 ° C in the version with thermal insulation. The filter is not designed for explosive dust (it can be extended with an option). The suction power is determined by the load factor of the filtering surface for the individual type of dust extracted. The following paragraph lists the most basic applications and the determination of the extraction performance of the G&G - JET BAG filter unit. Baghouse filter from the production of G&G Filtration is a dry, cloth-type dust filtration device with automatic regeneration of the filtering medium by compressed air. Regeneration of the filter medium is performed cyclically at set time intervals with the possibility of control according to the current pressure loss. The suction power is determined by the fan used according to the type of material and the required load on the filter surface. The fan is not part of the filter unit. Recommended loads on filtering medium for each type of dust are listed below. The filtration equipment is made in an outdoor version without the necessity of roofing. The filtration equipment achieves high filtration efficiency - 99%, so it is possible to return the filtered air mass back to the production hall area. The ratio of air return to the hall space and outdoor environment is determined by the technology designer according to the characteristics of the extracted material and the air conditions of the production object.



A more detailed description of the function of the filter units can be found in the CHAPTER DESCRIPTION AND FUNCTIONS.

IMPROPER USE OF THE DEVICE

JET BAG filter units must not be used for purposes other than those specified above. It is also prohibited to operate them with components other than those with which they were supplied.

Filter units must not be operated to a range other than that specified in these instructions for use.

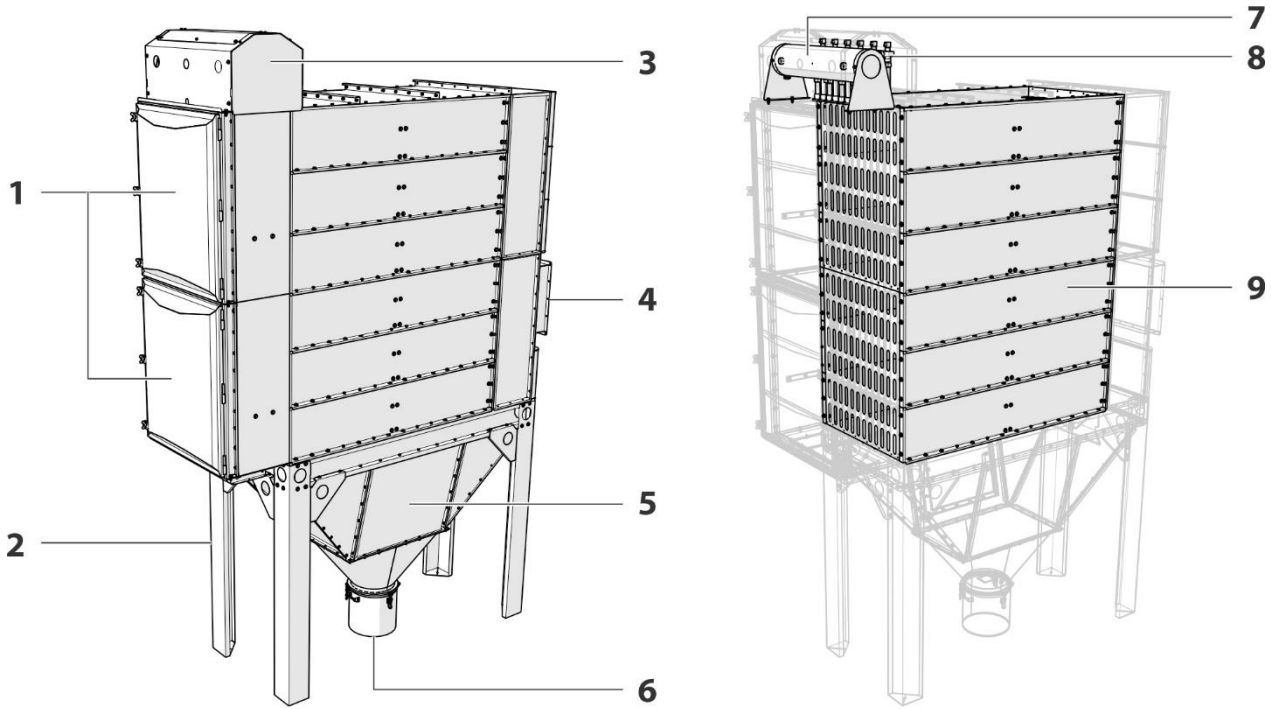
Improper use of the units also includes assembly and maintenance by an untrained or unauthorised person, operation with failure or defect, and operation with dismantled or modified covers.

In the event that a unit has been installed or serviced by an untrained or unauthorised person, or has been used for purposes other than those for which it is originally intended, or has been operated in violation of applicable standards, general regulations, internal end-user regulations or contrary to these instructions, any warranties for such equipment shall automatically terminate.

MAIN PARTS



The figure below represents a model of a vertical filter unit. The supplied models consist of the same components, differ only in orientation (vertical or horizontal), arrangement of individual parts and optional equipment.



- | | |
|---|---|
| <ul style="list-style-type: none"> 1 Access door 2 Frame 3 Pressure vessel cover 4 Connecting flange 5 Filter hopper | <ul style="list-style-type: none"> 6 Dusting outtake 7 Regenerative system with pressure vessel 8 Valves 9 Filter parts |
|---|---|

DESCRIPTION AND FUNCTION

The filtering device is designed for dust separation from exhausted air mass. The filtration system is always composed of a specific filter unit and an associated exhaust fan. The combination of the filter unit and exhaust fans differs for different types of dust and according to the required filter surface. The load on the filter surface varies for the dust types due to: fraction size, density, area, tack, grease and other factors that we transfer to the common unit in industrial filtration, and this is the load on the filter surface. The purpose is to design a filter + fan combination for a specific type of dust extraction and process so that the filtering device achieves continuous extraction performance and filtered air purity over the declared lifetime of the filter medium - at least 20,000 operating hours. The incorrect ratio of the used filtering equipment to the fan results in unstable operating conditions with a characteristic rapid increase of the pressure loss of the filter medium and the degradation of the suction power. Available filter variants: With a discharge to a 55-litre bucket, to a 200-litre container, to the Big-Bag. All types of filters are made for non-explosive dust as well as ATEX.



The choice of a specific model of the filter unit, its characteristics and equipment is the subject of a commercial negotiation between the manufacturer and the operator, and this manual does not describe all variants.

Variants of filter units Filter units differ in their construction according to the nature of the materials – dust, which they will filter. The type of filter unit supplied to you is indicated on the delivery note.

G&G JET BAG

The filter unit in the normal design is a set with standard accessories without special equipment requirements. The maximum air temperature entering the filter part is 80 °C.

G&G JET BAG-ATEX

The explosion-proof filter unit for extracting the flammable dusts forming an explosive atmosphere is a set constructed with an explosion-proof reinforced housing and equipped with the following safety devices:

- locking membrane to relieve the pressure wave from the filter housing or to reduce the propagation of the pressure wave back into the pipe, which must have the necessary pressure resistance in the necessary length
 - rotary feeder to prevent the transmission of hazardous effects of explosion, shock wave, flame and sparks on the material outside
- Maximum air extraction temperature 50 °C.

G&G JET BAG-EX

The filtration unit in the version to the explosion hazard **zone 22** and **ZONE 2** is equipped with accessories that must meet the requirements of the zone. Maximum air extraction temperature 50 °C.



***ZONE 2** is an environment in which there is only a small risk of an explosive atmosphere.
ZONE 22 is an environment in which there is only a small risk of explosion due to dust stirring.*

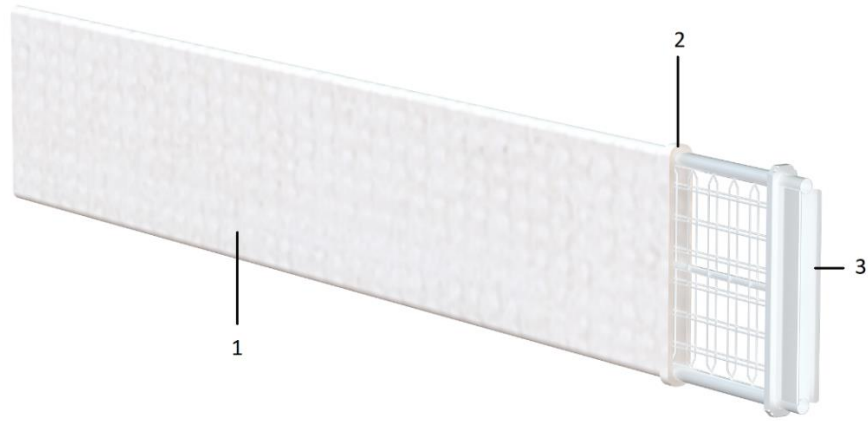
G&G JET BAG ATEX-EX

The filter unit, in the version for extracting flammable dusts forming an explosive atmosphere with air and into potentially explosive atmospheres, is a combination of two previous versions. The exhaust surface shall be equipped with a channel for the removal of shock waves and flames outside the explosive environment. Maximum air extraction temperature 50 °C.

Extraction fan The exhaust fan is located in a cabinet with a connecting flange and sucks in dust-sucked air. Its extraction power is determined by the type of material and the required load on the filter surface. It is always chosen so that the filter unit achieves continuous extraction performance and purity of filtered air for the declared life of the filter medium.

Filter cabinets (filter medium) Dust-soaking air, sucked in by the fan, is routed to the pre-separating part and from there flows through the filter medium in the form of a filter pocket where dirt is trapped. It also flows through the frame head around the high-pressure pipes to the filter outlet.

The filter medium consists of highly mechanically resistant non-dodd fabric. For normal airs up to **150 °C**, a polyester fibre filter fabric is used, for higher air temperatures up to **200-240 °C** a filter fabric made of aramid fibres or polyamide fibres is used. Furthermore, filter fabrics with special properties can be used (antistatic design, hydrophobic and oleophobic treatment, etc.). The manufacturer's guaranteed service life of the filter medium for spot filters is at least 20,000 operating hours, or at least 1 year depending on the operating conditions of the device.



1 Filter bag

2 Tight cuff

3 Filter bag frame

Regeneration system

The filter units are equipped with an automatic regeneration system of the filter medium using the pressure air counter-flow.

The regeneration system consists of a pressure vessel that is connected to the operator's pressure air distribution. The vessel includes electromagnetic-controlled diaphragm valves, which, when opened, release pressure air into the cabinet with filter medium. The valves are **2/2-way, dimensions 3/4" and 1"** (24 V/50 Hz).

Regeneration is carried out by compressed air (**0.6-0.7 MPa**) and is automatically controlled by an electronic control unit. It triggers regeneration cyclically at set time intervals, which can be changed as needed.

The system can also include a pressure switch, which is used to stop the filter when the pressure of regeneration drops, and U-manometers to detect pressure losses of filters.



Instructions for the pressure vessel and control unit are supplied as a separate document within the supply of the filter unit.

Filtered air and dust output

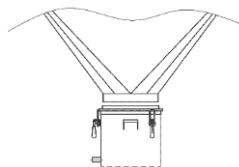
Filtered air returns to the production hall in the form of clean air or is blown into the surrounding area.

The dust filtered out of the filter unit falls through the sloping covers into the dust collection vessel.

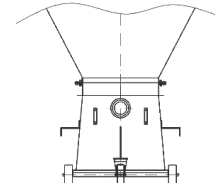
Types of collection vessels

Depending on the volume, dust may fall into one of the following variants:

Collection vessel 55 liters

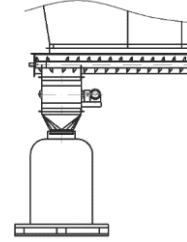
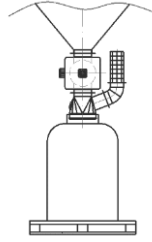


Container with bottom hop



Rotary feeder and BIG-BAG

Screw conveyor, rotary feeder and BIG-BAG



Fire protection measures In cases of fire hazard of flammable dusts, filters can be fitted with a fire extinguisher. The fire extinguishing system and connection of the extinguishing nozzle to the dry pipe is not part of the filter.

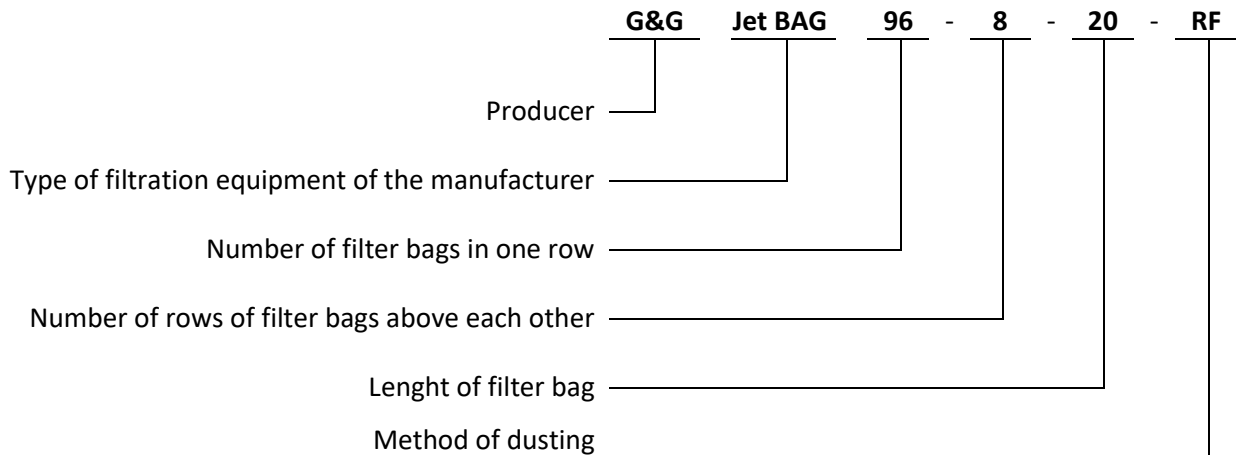
TECHNICKÁ DATA

Order number (filter type)	Filter area (m ²)	Airflow at 1,0 m/min	Airflow at 1,6 m/min	Airflow at 2,5 m/min	Number of filter bags	Approximate consumption of compressed air (Nm ³ /h)
G&G JET BAG 16-1-20-55	24	1 469	2 350	3 672	16	7
G&G JET BAG 16-2-20-55	49	2 938	4 700	7 344	32	8
G&G JET BAG 16-3-20-55	73	4 406	7 050	11 016	48	10
G&G JET BAG 16-4-20-55	98	5 875	9 400	14 688	64	12
G&G JET BAG 16-5-20-55	122	7 344	11 750	18 360	80	14
G&G JET BAG 16-6-20-55	147	8 813	14 100	22 032	96	16
G&G JET BAG 16-7-20-55	171	10 282	16 451	25 704	112	18
G&G JET BAG 16-8-20-55	196	11 750	18 801	29 376	128	20
G&G JET BAG 24-1-20-55	37	2 203	3 525	5 508	24	14
G&G JET BAG 24-2-20-55	73	4 406	7 050	11 016	48	16
G&G JET BAG 24-3-20-55	110	6 610	10 575	16 524	72	20
G&G JET BAG 24-4-20-55	147	8 813	14 100	22 032	96	24
G&G JET BAG 24-5-20-55	184	11 016	17 626	27 540	120	28
G&G JET BAG 24-6-20-55	220	13 219	21 151	33 048	144	32
G&G JET BAG 24-7-20-55	257	15 422	24 676	38 556	168	36
G&G JET BAG 24-8-20-55	294	17 626	28 201	44 064	192	40
G&G JET BAG 36-4-20-RF	108	6 480	10 368	16 200	144	21
G&G JET BAG 36-6-20-RF	162	9 720	15 552	24 300	216	24
G&G JET BAG 36-8-20-RF	216	12 960	20 736	32 400	288	30
G&G JET BAG 36-10-20-RF	270	16 200	25 920	40 500	360	36
G&G JET BAG 36-12-20-RF	324	19 440	31 104	48 600	432	42
G&G JET BAG 36-14-20-RF	378	22 680	36 288	56 700	504	48
G&G JET BAG 36-16-20-RF	432	25 920	41 472	64 800	576	54
G&G JET BAG 36-18-20-RF	486	29 160	46 656	72 900	648	60



More detailed technical data for your chosen type can be found on the manufacturer's website. If you do not find an information that is important to you, please contact the manufacturer of the unit.

Key to mark filters The following diagram shows the key to identify the G&G FLAT HOUSE 12-3-15-Filter.



LEGEND:

Type of filtration equipment of the manufacturer

Type designation of filter equipment manufacturer G&G filtration, s.r.o.

Number of filter bags in one row

Specifies how many pieces of filter bags side by side are placed in one filter section.

Example: 12 = 12 pieces

Number of rows of filter bags on top of each other

Specifies how many rows of filter bags above each other contain the filter device.

Example: 3 = 3 rows

Length of filter bag

Specifies the length of the filter bag.

Example: 15 = 150 cm

Method of dust collection

Specifies how the dust is captured by the filtration device.

The options are: 55 collecting container of a volume of 55 L

150, 200, 250, 300 containers with bottom discharge

RF discharge via rotary valve into a BIG-BAGU of 1,0 m³

SC discharge through screw conveyor into BIG-BAG

CONNECTION TO THE ELECTRICITY NETWORK

Fan electric motor: 400 V / 50 Hz

Control unit: 230 V / 50 Hz

A detailed description of the parameters of the mains is given in the instructions prepared by the manufacturer of the electric motor and control unit. Both instructions are included in the delivery of the filter unit.

NOISE

Sound pressure level L_{pA}: max 70 dB(A)



The L_{pA} sound pressure level is measured at the fan outlet under free space conditions at a distance of 2 m. However, the measured value does not include contributions from surrounding machinery, therefore, in case of higher overall noise, we recommend that persons working near the filtration unit use hearing protection.

OUTPUT CONCENTRATION OF SEPARATING ADMISS

The guaranteed output concentration of the separated admissions is up to 1 mg/m³ of air extracted.

LABELS ON THE DEVICE

Production label



HENNLICH s.r.o.
Ceskolipska 9, Litomerice 412 01
Czech Republic



Product:	FILTRATION UNIT
Type:	PH-96-8-20-RF
Year:	2022
Order number:	V21212
Serial number:	PH-2022-00002
Zone inside:	no ATEX requirements
Zone outside:	no ATEX requirements
Filter area:	1 175 m²
Number of filters bags:	768 pcs
Weight:	16 566 kg

www.hennlich.cz

OTHER LABELS



Direction of rotation



Risk of injury



The device is designed to operate in an explosive environment

DECLARATION OF CONFORMITY

The declaration of conformity is supplied in separate documentation supplied with the filter equipment.

3 | SAFETY INFORMATION

GENERAL INFORMATION

The person designated by the operator is primarily responsible for his personal safety when operating the filter unit. The manufacturer of the unit shall not be liable for personal injury or damage to the equipment and environmental damage caused by not being used and operated in accordance with the instructions for use and the applicable safety regulations.

Filter units are designed in accordance with international standards and regulations applicable to the production of such equipment. The electrical elements of the unit comply with international regulations on protection against dangerous touch voltage. All electrical elements either have the appropriate coverage prescribed by the standard or are located in enclosed spaces which, by their cover, comply with the Regulations of those standards.

OPERATOR OBLIGATIONS

A company that implements a filter unit into its technology, or the operator of a filtration unit, must provide the following:

- must clearly define the extent of the responsibilities and competences of the personnel to assemble and connect the filtration unit to transport technology
- before putting the unit into service, it must ensure that all those who come into contact with it are thoroughly familiar with the contents of the instructions for use
- must ensure the spatial arrangement of the unit in such a way as not to endanger the operation and operation of workers operating the surrounding
- take care to protect the health of workers intended for the installation or maintenance of the unit and allocate them appropriate personal protective equipment

REQUIREMENTS FOR WORKERS

Qualification of personnel for the installation of the filter unit:

Education in the field of mechanical engineering – a person who is knowledgeable, i.e. a person with adequate technical knowledge, professional experience and/or experience, can be able to recognize risks and avoid with dangers that may occur during the handling of the filter unit and its installation.

Qualifications of electrical connection workers:

Education in the field of electrical engineering according to the relevant legislation of the country of the operator, knowledge of the used control system of transport technology.



Work equipment:

During the installation of the filter unit, the designated workers must use suitable personal protective equipment according to general regulations, internal regulations and the nature of the work carried out, such as fireproof and dielectric work suit, working shoes with reinforced steel tip, gloves, helmet, goggles, hearing protectors and respirators (according to local conditions).

PROHIBITED ACTIVITIES

- it is forbidden to modify the unit in any way without the manufacturer's knowledge
- it is forbidden to remove or damage the labels on the unit
- it is prohibited to authorize the operation, maintenance and servicing of persons who are not intended or competent to operate, maintain and service this type of equipment
- it is forbidden to use the unit if a defect is detected
- it is forbidden to throw cigarette butts and the like into the exhaust pipe

SAFETY INSTRUCTIONS FOR OPERATION AND MAINTENANCE

- In case of malfunction of any nature, cleaning and maintenance, always turn off the filter unit first, ensure against unexpected start-up and wait for hot surfaces to cool down.
- Do not remove or modify the guards.
Do not lower the filter unit unless all doors or control openings are closed and are not connected by all flanges to the technology so that the limbs cannot be inserted into the interior of the device during operation.
- Any repair or maintenance work on the electrical system of the unit may only be carried out by persons with adequate electrical qualifications.

RESIDUAL RISKS

Filter units and parts thereof shall be designed in such a way that, when used correctly in perfect technical condition, they do not endanger the health of workers and cause economic damage to surrounding installations. However, during the installation and maintenance of the unit, situations may occur that are a source of danger for the user, as long as he is not aware of them and does not comply with the principles of safe working. These hazards are so-called residual risks – risks that remain, even if all preventive and protective measures have been considered and implemented.

Filter units and parts thereof shall be designed in such a way that, when used correctly in perfect technical condition, they do not endanger the health of workers and cause economic damage to surrounding installations. However, during the installation and maintenance of the unit, situations may occur that are a source of danger for the user, as long as he is not aware of them and does not comply with the principles of safe working. These hazards are so-called residual risks – risks that remain, even if all preventive and protective measures have been considered and implemented.

RISK: Electric shock during installation, maintenance or servicing of electrical parts of the equipment. Electric shock when people touch parts that have become live due to a defect in the electrical equipment.

PROTECTION: The wiring, maintenance and servicing of electrical parts of the equipment may only be carried out by appropriately qualified personnel.

RISK: Compression of parts of the body or bump when handling the device or its dismantled parts during installation. Injuries due to slipping, tripping and falling of persons on edges or other parts of the device during installation or maintenance.

PROTECTION: Always pay maximum attention to the work you are doing and observe safety regulations. Wear the prescribed personal protective equipment. Make sure that every person involved in installation or maintenance is familiar with each step of the installation.

RISK: Burns on parts of the device that are warmed to a high temperature during operation.

PROTECTION: Do not touch the device until the temperature drops properly. There's a risk of burns. Wear protective gloves.

RISK: Injury due to spraying of high-pressure medium.

PROTECTION: Maintenance or repair of the filter equipment and its parts may only be carried out by a designated and properly trained worker with appropriate qualifications, equipped with personal protection devices.

RISK: Hearing damage from exposure to excessive noise or injury due to vibrations in the case of unit malfunction.

PROTECTION: Use hearing protection when operating the unit in conjunction with surrounding devices. In the if the unit malfunctions, turn it off immediately and call maintenance or repair staff.



RISK: Explosion due to non-compliance with the maximum temperature of filtered-out solid pollutants in the case of explosive dusts or mixtures.

PROTECTION: The model of the filter unit is designed for environmental and dust properties specified by the operator during a business meeting. Therefore, observe these characteristics. If the properties are changed, consult the manufacturer of the filter unit.

4 | INSTALLATION AND COMMISSIONING

WORK ENVIRONMENT

In order to maintain the correct operation of the filter unit, it is necessary to provide the following environment:

- altitude up to 2,000 m
- relative air humidity at the workplace 20-80 % without condensation
- ambient temperature -20 °C to +40 °C
- explosion-proof ambient working environment for units not intended for explosive environments



Filter units equipped with this symbol are complemented by equipment that allows them to operate in potentially explosive atmospheres according to explosive zones.

OPERATING SPACE

The selection of the location of the installation of the filter unit was considered in advance during the business meeting according to the layout of the operating environment. To install the unit, ensure that there is sufficient space not only for safe installation, but for any subsequent maintenance or service.

UNPACKING

Due to the variety of unit packaging due to their different configurations, not all unpacking options can be described, so the following procedure is indicative. To unpack:

- 1 Loosen the reinforcing tapes, attaching parts of the filter unit to pallets and/or to the vehicle, remove the protective and packaging material



Dispose of the used packaging material according to the operator's internal regulations or legislation in force in the country of installation of the filter unit.

- 2 Visually check that some parts of the unit have not been damaged during transport. Report defects to the supplier or carrier as soon as possible.

PLACEMENT ON LIFTING DEVICE

Filter units and parts thereof can be lifted using a forklift or lifting device (e.g. workshop crane). Depending on the accessibility of where the unit is to be installed, choose the most convenient shipping device.



When lifting loads, follow the relevant standards and internal regulations of the operator.

Only persons authorized to do so may use lifting equipment and carry out binding work. Never stand under a lifting load or put any part of your body under a lifted load. Do not place the load over any part of another person's body.

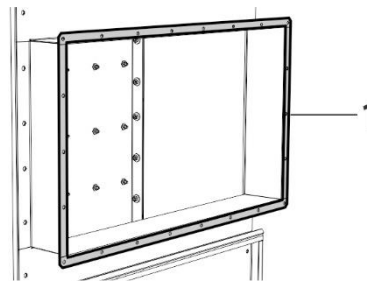
When handling the device, keep in mind that the load capacity of the lifting device must always be greater than the weight of the load.

Check the binding and lifting devices before use and replace the defective parts with new ones. Do not use damaged or incomplete binding agents. Binding chains or ropes or straps shall not be twisted when lifting, they shall not have knots or loops on them. Never try to repair defective parts unprofessionally.

Always use personal protective equipment such as toe-reinforced work shoes, protective gloves and protective helmets when handling the device

INSTALLATION

- 1 Check that the extraction flanges of your technology to which the unit will be connected match the flange (1) of the filter unit, especially the screw distance.



- 2 Apply silicone sealant or sealant to the flanges of your technology on both sides of the holes. Follow the instructions of the sealant manufacturer. In some cases, a seal is also supplied to the unit.
- 3 Set the suspended unit slowly and carefully to the flange of your technology. Make sure that the sealing layer or seal is not damaged.



In any case, filter units intended to operate in explosive environments shall be grounded and all parts connected conductively.



When lifting the unit, follow the relevant standards and internal regulations of the operator. When handling the unit, always use personal protective equipment such as toe-reinforced work shoes, protective gloves and protective helmets.

- 4 Screw in the flanges with the filter unit housing supplied with the screws.

CONNECTION TO THE MAINS

Before connecting to the mains, check that the network has the correct parameters to ensure the fan performance of the filter unit. Verify that the voltage and frequency of the mains correspond to the data on the electric motor label. Make sure the power cord is not under power.

Connect according to the instructions for the electric motor and the control unit, see MANUFACTURER'S DOCUMENTATION AND SUBCONTRACTORS. The diagram of the connection of the electric motor is also indicated in the lid of the terminal block of the engine.



The wiring must comply with the applicable standards in the operator's country and vary individually according to the system into which the filtration unit is incorporated.

In any case, the unit must be grounded and all parts connected conductively.

The unit shall be prevented from starting unexpectedly according to the applicable national standards of the operator's country and shall be equipped with a lockable switch-off device.



The wiring and connection to the mains shall comply with the applicable standards in the country of operation of the filter unit.

In the case of filtration units with the OSEX parameter, an immediate automatic stop shall occur in the event of an explosion.



An emergency stop button shall be placed within the operator's reach

**BEFORE
 COMMISSIONING**

Check:

- (a) tightness of the connection flanges of the filter unit and the extraction pipe
- (b) whether the unit is connected to the extraction technology in such a way that fingers or objects cannot be pushed into the compartment of the unit housing during operation
- (c) correct direction of rotation of the fan blade wheel (direction indicated by arrow)
- (d) compressed air connection
- (e) setting the correct working pressure on the reducing valve 0.6 - 0.7 MPa



The correct operating pressure is very important for the filter function. Pressure below 0.45 MPa and above 0.8 MPa are causing regeneration failures.

- (f) control unit settings:
 - impulse 200 ms
 - pause 25-30 s
 - 230 V/50 Hz voltage at the same time as fan start
- (g) whether a PVC bag is inserted in the collection container and the quick-releases are properly closed (only for units with a collection vessel)
- (h) For filter units intended to operate in an explosive environment, check that the device is grounded and all parts are connected conductively.



STARTUP

The operation of the filter unit depends on the control system of your technology, which it will suck out, so the start depends on how it is integrated into the technology.

Therefore, this walkthrough does not describe how to run the filter unit.

5 | MAINTENANCE



Always switch off the filter unit before any maintenance or inspection and wait for hot surfaces to cool down. We also recommend that you secure the drive against unexpected startup.

If the filter unit carries dangerous substances, always use appropriate personal protective equipment depending on the nature of the hazard of the substance.

OTHER MAINTENANCE

Inspection of the safety membrane

Filter units fitted with a locking membrane must be inspected according to the operating and maintenance instructions specified in the technical conditions of the locking membrane. This document is included in the delivery of the filter unit.

Emptying dust containers

Periodically check the filling status of the dust container used about your filter unit model and, if filled, empty the container in a place specified by the operator. It is recommended to determine the frequency of inspection and emptying depending on the conditions under which the filter unit is operated.

Replacing the PVC bag of the collection vessel

To change the bag, do the following:

Lift the handles, loosen and remove the container and the dust bag from it.

After inserting a new bag, follow the opposite procedure. Make sure that the collection vessel is positioned under quick-release due to tightness.

Maintenance of the pressure vessel

Check the pressure vessel according to the manufacturer's instructions, as specified in the separate instructions. Instructions are included in the delivery of the filter unit.



Maintenance of pneumatic parts of the equipment may only be carried out by persons properly trained and with appropriate qualifications.

MAINTENANCE OF ELECTRICAL PARTS

Periodically or according to the operator's internal regulations, check the insertion of all connectors and **tightening of the screws of the electrical connections and terminals**. Perform these checks when the filter unit is turned off.

Periodically **check the insulation status of all cables and the grounding status**. In case of any damage, he will immediately contact the electrical maintenance staff.

Check the fan electric motor and control unit according to the instructions of their manufacturers, as specified in the separate instructions. Instructions are included in the delivery of the filter unit.



Maintenance of electrical parts of the equipment may only be carried out by persons properly trained and qualified accordingly.

REPLACING THE FILTER MEDIUM

The manufacturer's guaranteed service life of the filter medium is **at least 20,000 operating hours or a minimum of 1 year**.

After this time, contact the manufacturer or an authorized service center to check and replace the filter medium. **Under no circumstances should you try to replace the filter medium by yourself!**

TROUBLESHOOTING

- Reduced suction effect** If the suction effect at the source decreases, review and check:
- pressure differentiation of the filter medium (regardless of the type of dust and the specifics of the device it should be between 0 and 1 600 Pa and is provided by a manometer).
 - adjustment of flaps on the suction and exhaust side of the pipe
 - setting of operating pressure for compressed air
 - functionality of electromagnetic diaphragm valves in connection with the functionality of the AOV control unit (visual inspection of operation and switching of the AOV control unit and listening control of the opening of electromagnetic diaphragm valves depending on the switching of the AOV = pulse of air rinse)
 - pipes; dirt in the form of rags, crumpled newspapers, etc. may have been stuck here.
 - exhaust pipes, including filter bags, intended to return clean air to the working area
- Low pressure air regeneration** If the pressure of the regeneration system drops below the set limit (4.4 bar), the filtration device is switched off. This condition is indicated by the RED TL PRESSURE DROP light. AIR on the power switchboard. Before putting the filtering device into operation, check that pressure air of appropriate pressure is brought to the filtration device using the pressure gauge on the pressure vessel (6-7 bar). Then press the STOP button to reset the pressure switch and then the START button to start the filter device.

MALFUNCTION	POSSIBLE CAUSE	SOLUTION
The filter unit did not run	START/STOP light is off	Check the position of the main switch, circuit breaker and mains power supply.
	PRESSURE DROP LIGHT TL. The air is GLOWING RED	Check the air intake, see Emergency states.
	TECHNOLOGY OPERATION LIGHT lights up RED	Check the current protections of each component of the technology.
Fan failure when starting up	The re-switching on was too fast, the frequency converter is overheated	Check the frequency inverter display for the type of failure and follow the frequency converter instructions to remove it. This only applies until the main switch is switched off, then the failure is reset.
The filter unit vibrates considerably	Unbalanced rotating components	Check the balance of rotating components (especially the fan rotor).
	The filter medium is damaged, the deposits on the fan rotor have been glued	Check the filter medium and, if necessary, replace, check the fan rotor and, if necessary, remove the deposits.
The filter unit shows reduced extraction power	High pressure loss of filter medium	Turn off the filter device, allow regeneration.
	The flaps in the suction pipe are closed	Open the flaps.
	The fan rotates counterclockwise of the marked direction of rotation	Check the electrical connection of the fan motor.
	The space between the filter bags is jammed with material	Clean the filter equipment or contact the supplier's service department.
There is a visible leakage of dust particles from the	Dirt is leaking through the sealing of the filter bags	Check the tightening of the fixation sheets of the filter bags frames.

exudation of the filtration device		
TZL* residual fling value is too high	The filter medium is damaged	Check the filter medium or replace it.

* Solid pollutants

SPARE PARTS If you need to replace any part or unit, please contact **G&G filtration, s.r.o.**, or the company that implemented the filter unit to ensure the delivery and assembly of the required component upon agreement.

DISMANTLING AND DISPOSAL To remove the device, follow the opposite steps as described in install and get it up and running. If you are unsure of how to do this, contact the unit manufacturer or invite a specialized company.

Due to the nature of the working conditions that vary for each application, it is not possible to generally determine the life of the filter unit. However, before disposing of the filter unit and its parts, make them unusable.



When disposing of parts of a unit, it is necessary to follow the instructions of the manufacturers of individual components as well as the relevant national waste disposal regulations. We recommend that you dispose of each component of the device in a location that is specialized for this.

6 | DOCUMENTATION OF THE MANUFACTURER AND SUBCONTRACTORS

DOCUMENTATION SUPPLIED The following manufacturer's and subcontractor documentation is supplied with this filtering device:

- delivery note (delivered at delivery)
- declaration of conformity
- instructions from manufacturers of selected components

7 | WARRANTY CONDITIONS

WARRANTY CONDITIONS The manufacturer grants a warranty on his product for a period of 24 months from the date of delivery or handover and takeover.

THE GUARANTEE COVERS:

- hidden defects of the material
- demonstrable design defects

Defects covered by the warranty must be reported in writing to the manufacturer's service department.

Specific cases may be decided only after consultation, inspection and assessment by the manufacturer.

THE WARRANTY DOES NOT COVER DEFECTS CAUSED BY:

- mechanical damage
- careless handling
- undisciplined intervention
- by connecting or switching to the wrong type or voltage of electricity
- normal mechanical wear, etc.



Other warranty conditions can be agreed in the contract.

8 | LIST OF MAINTENANCE OPERATIONS

<i>B</i>	Filtration unit						
<i>No.</i>	<i>Activity</i>	<i>Character</i>	<i>Priority</i>	<i>Daily</i>	<i>Quarterly</i>	<i>Annually</i>	<i>As needed</i>
<i>B1</i>	Inspection and cleaning of the dust container	O	1	X			
<i>B2</i>	Pressure control in the order of pressure air	M	2	X			
<i>B3</i>	Control and writing of pressure loss of filter medium	M	1	X			
<i>B4</i>	Check and write pressure and temperature in the pipe in front of the filtration unit	M	3	X			
<i>B5</i>	Check and write pressure and temperature in the exudation pipe	M	3	X			
<i>B6</i>	Control of the activity of regeneration pulse function	M	2	X			
<i>B7</i>	Check dust discharges on the clean side of the filter	T	3	X			
<i>B8</i>	Release of pressure air condensate	T	1	X			
<i>B9</i>	Check for tightness of pneumatic regeneration elements, pressure vessels, valves, hoses	T	1		X		
<i>B10</i>	Inspection of the inner part of the hop and removal of sediments	T	1		X		
<i>B11</i>	Check the function of all solenoid valves	T	1		X		
<i>B12</i>	Check filter cabinet tightness, hop, dividing planes	T	1			X	
<i>B13</i>	Inspection and repair of corrosion parts of the filter surface by coating	T	2			X	
<i>B14</i>	Replace the filter media	T	1				X

M - measurement

T - the act of a technician

O - operation

1 - necessary

2 - appropriate

3 - recommended

G&G

FILTRATION



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