



**OPERATION MANUAL**  
**ASPIRATION BOOTH FOR SANDING FCS**



\* Photos in this manual illustrate the plant with options and may differ from your final project

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## 1. General information

### 1.1. Symbols



**Warning sign: ATTENTION! Important safety notices as for the people's work and strict execution of the stated instructions.**



Protective gloves. Use protective gloves in order to avoid damage caused by sharp parts.



Workwear. Use protective clothing in order to avoid damages to your body during the assembly.



Footwear. Use safety footwear in order to protect your feet from heavy parts which can fall during the assembly.



Personal protective equipment for respiratory system and eyes.

## **1.2. Safety notices**

The person who is in charge of the assembly, operation and maintenance of the plant must read this installation and operation manual, learn and follow the rules hereof.

The set up and primary starting up of the machine is authorized to qualified operators only or shall be managed by them. Take into consideration regulations and standards related to the assembly, observe the rules set for work places. Use personal protective equipment when using the filtering plant and its components.



Always stop the machine and unplug its components before starting the maintenance work.

## **1.3. Expected use of the plant**

The universal industrial complex is designed for grinding and cleaning of bulky and large-scale objects or prefabricated constructions. It is also used for removing dust from products with a pneumatic gun.

The operating principle of the complex is based on removal of polluted air containing suspended dust particles, followed by its purification on the filtering elements and return of purified air to the working area by creating a directed air flow. Filtered dust is collected in containers for dust collection. The air is cleaned by means of reusable cartridge filters, which are automatically cleaned by pulse-jet filtration with compressed air. The aspiration grinding stand performs a fine purification of the dusty air. Cartridge filters made of antistatic polyester provide filtration of air with particulate load from 5  $\mu\text{m}$  up to 99.9%, which helps provide cyclical air usage.

Cleaning of the filters is done automatically by controlling the pneumatic valves, cleaning the filter one by one.

Filtering material includes particleboard, MDF, dry chips, dust, PVC, expanded foam, coal dust, stone dust, composite materials.

Scope of application includes woodworking, furniture production, metalworking, pharmaceuticals, grinding equipment, transfer plants, stone and concrete processing, agroindustrial production.

## 1.4. Plate

The identification mark is made on the plate which is pasted to the equipment and contains the information about the equipment. The plate shall be placed in plain view.

### Identification plate:

- Series and model
- Date of manufacture
- Serial number

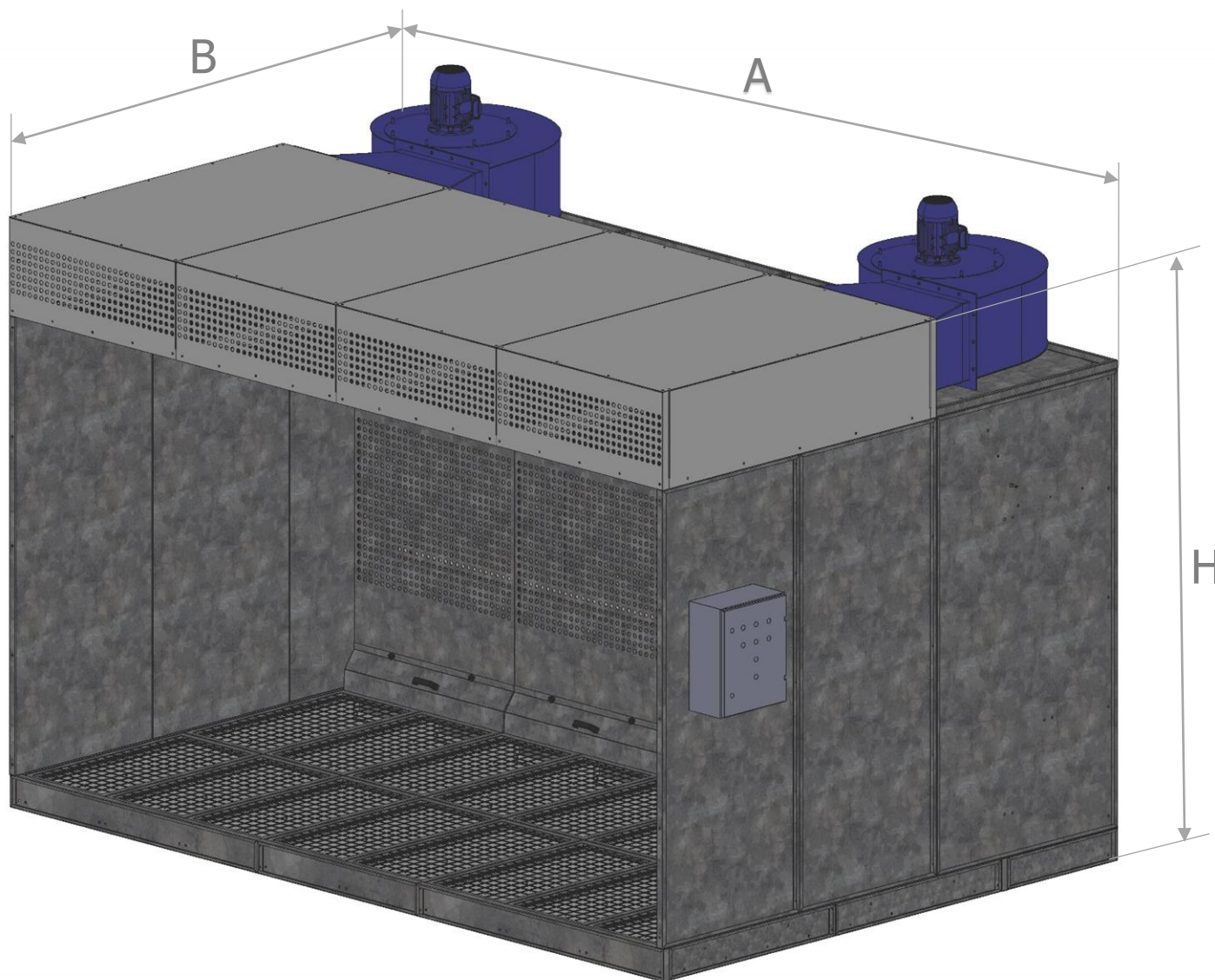
	02660, Ukraine, Kiev, Str. Borispilska 7, Bld. 3, of.248 Tel. (+38044)586-59-86 info@aton-service.com.ua www.aton-service.com.ua	
	Model:	<input type="text"/>
	Data of manufacture:	<input type="text"/>
	Serial number:	<input type="text"/>

	02660, Ukraine, Kiev, Str. Borispilska, 7 tel. (+38 044) 586-59-86 info@aton-service.com.ua www.aton-service.com.ua		
	TYPE : XXXXXXXX		
	NR.: XXX-XXX/XX-XX		
	V: 400	PH: 3	HZ: 50
	KW: XX.X		A: X.X
Year of construction: 20xx			

## 1.5. Technical data

The company Aton Service LLC supplies the following sizes of filtering plant of type FCS to the market: FCS-3000/4000/5000. The characteristics of each plant are stated in the table below:

Item	FCS-3000	FCS-4000	FCS-5000
<b>Air delivery, m<sup>3</sup>/h</b>	10000	12000	14000
<b>Total pressure, Pa</b>	700	700	700
<b>Power, kWt</b>	1,5/1,5	2,2/2,2	2,2/1,5/2,2
<b>Blower</b>	RL-AS 500	RL-AS 500	RL-AS 500
<b>A, mm</b>	3080	4080	5080
<b>B, mm</b>	2700	2700	2700
<b>H, mm</b>	2840	2840	2840
<b>Weight</b>	2200		
<b>Size of filtered particles</b>	>5MKM	>5MKM	>5MKM
<b>Way of accumulation</b>	Container	Container	Container
<b>Accumulation volume, m<sup>3</sup></b>	0,3	0,4	0,5
<b>Noise level (in the work area), dB</b>	85	85	85
<b>Type of filter</b>	Antistatic cartridge filter	Antistatic cartridge filter	Antistatic cartridge filter
<b>Number of filters</b>	6	8	10
<b>Filtering surface m<sup>2</sup></b>	60	80	100





## **2. Preliminary operations for assembly**

### **2.1. Necessary tools**

A set of tools necessary for the assembly of the plant: a screw gun with a set of caps (or a set of ratchet heads), caulk gun, a set of screw keys, ladder.



### **2.2. Personal protective equipment**

Use personal protective equipment to prevent accidents and injuries during installation, operation and repair of the system.

### **2.3. Product completeness**

Before installation, make sure that all necessary parts and accessories are available according to the list of equipment completeness.

All equipment with its complete list is reflected in its shipping receipt checklist (standard or extended). Standard configuration means factory configuration, extended configuration means additional options are provided by the product customer.

### **3. Assembly**

#### **3.1. Preliminary instructions**

- The equipment is delivered disassembled and partially assembled and requires installation work at the equipment installation site.
- For ease of installation, please refer to Appendix 1, drawings and specifications.
- For compressed air and electricity connection to the control panel, please refer to the installation connection diagram (Appendix 2,3).

#### **3.2. Location**

- The location of the equipment must comply with the fire and health and safety regulations of the workplaces, as well as allow for quick and easy access to the compressed air connection and power connection to the control panel of the equipment.
- The floor foundation for the installation must be even and of sufficient durability.
- It is recommended to place the equipment at least 1 m from walls, ceiling, beams and other equipment for maintenance purposes.
- Do not install the equipment near open flame sources or flammable substances.
- Electrical safety of this equipment can only be achieved if it is properly connected from the grounding system (according to the safety standards for electrical equipment).

#### 4. Setting up and power connection

##### 4.1. Electrical connection

**WARNING:** During shutdown as well as after emergency response, the system equipment continues to operate until the cycle is complete. For safe operation of the equipment you must always remove the power supply from the equipment by circuit breakers (incoming circuit breaker) and take measures to prevent the possibility of accidental switching on according to the Regulations for Safe Operation of Consumers (HSE regulation).



**WARNING: Once connected, the control panel and the metal parts must be grounded.**

Operation of the aspiration system control panel includes control of the following elements:

- Blower;
- Blow-off valves;

List of equipment:

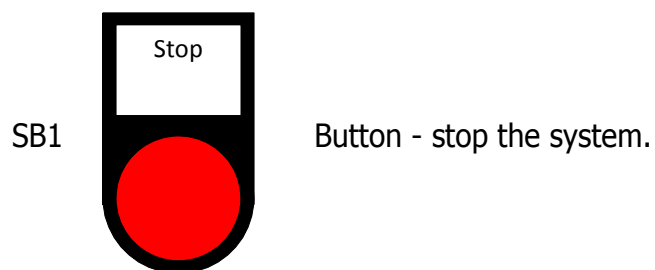
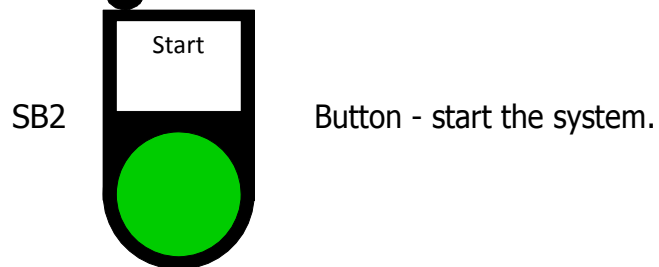
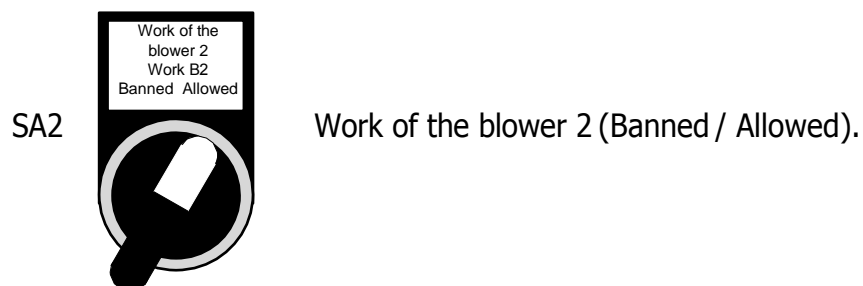
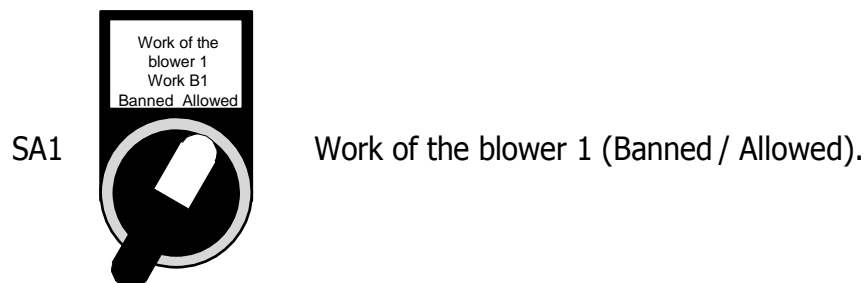
- Q1 – main circuit breaker.
- QF1 – automatic circuit breaker for blower 1.
- QF2 – automatic circuit breaker for blower 2.
- QF3 – automatic circuit breaker for blower 3.
- QF4 – 400V control circuits.
- F1 – lighting power supply. RCF – phase control relay.
- K1 – electromagnetic relay.
- KT1, KT2, KT3 – time relays.

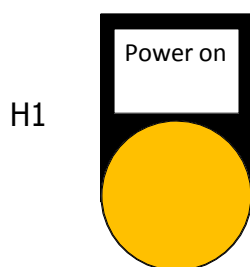
The electrical control circuit of the plant is shown in Appendix 3.

Cleaning of filters is controlled by time relay KT3 and KT4 (CRM - 2H), regulator TIME1 - time of activation of the valve (recommended 0.5 s), regulator TIME2 - pause duration between activations. The KT1 time relay ensures the operation of the cleaning system after switching off the blower. Time relay KT2 cyclically switches purging operation from one valve to another.

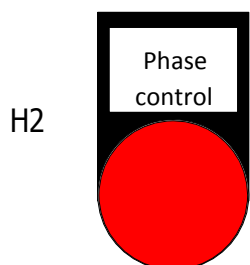
The control board of the aspiration stand is installed on the equipment case panel as agreed by the Customer.

The following control buttons and alarm lights are displayed on the control panel:

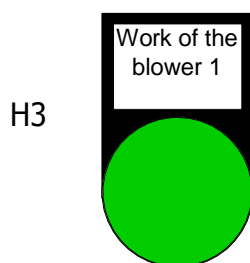




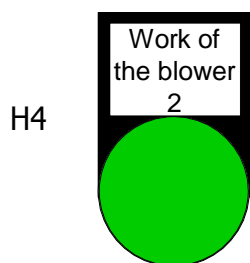
Lamp - power supply alarm.



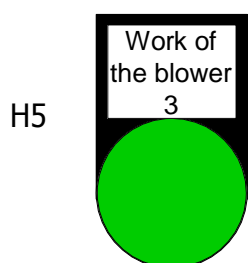
Lamp - signalling a fault in the electrical network. Check for phases, phase sequence, voltage.



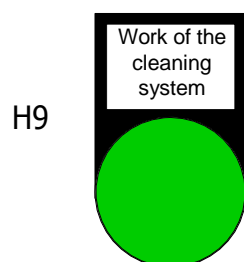
Lamp – signalling of work of the blower 1.



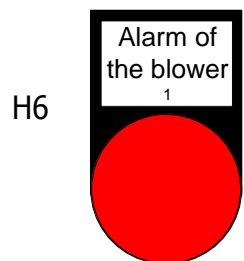
Lamp – signalling of work of the blower 2.



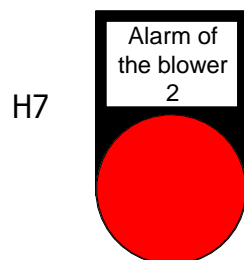
Lamp – signalling of work of the blower 3.



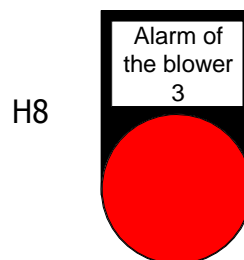
Lamp – signalling the operation of the filter cleaning system



Lamp –signalling a failure of the blower 1. Switch on the QF1 circuit breaker and check the drive current.



Lamp –signalling a failure of the blower 2. Switch on the QF2 circuit breaker and check the drive current.



Lamp –signalling a failure of the blower 3. Switch on the QF3 circuit breaker and check the drive current.

#### **4.2. Compressed air connection and filter cleaning system setup**

The filter cleaning system consists of a compressed air receiver, a valve operation controller and the valves, which perform the pulse cleaning of the filters. The receiver is supplied with compressed air via a non-return valve. It is recommended to prepare the compressed air beforehand; it must comply with ISO 8573-1 - (2.3) purity class standards.

Compressed air is connected to the equipment receiver using a G 3/8 inch (Mom) quick-change connector for pneumatic products. The location of the compressed air connection is shown in Appendix 2.

During the operation of the aspiration grinding stand, the filters will be gradually cleaned. The compressed air jets when the pneumatic valves that are directed into the filter open for a short time will create an ejection effect on the dust accumulated on the filters, and thus the dust particles are blown off their surface. The compressed air is stored in a tank at high pressure. The receiver's working pressure is 6 bar.



**WARNING: When cleaning the filters with compressed air, a short opening of the pneumatic valves, a short noise burst is generated. In order to eliminate discomfort for the personnel, individual hearing protection is recommended.**



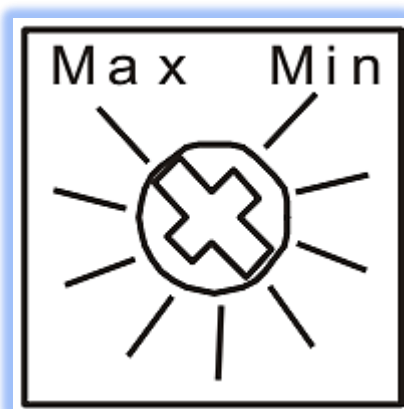
**WARNING! When the aspiration grinding stand is switched off, the compressed air remains in the air receiver. During maintenance or repair of the receiver the compressed air must be discharged beforehand.**

- Rotary adjuster for setting pause between actuation of the pulse valves.



Position	Pause (sec)	Position	Pause (sec)
0	15	8	75
1	20	9	88
2	25	A	100
3	30	B	118
4	35	C	148
5	44	D	175
6	52	E	210
7	60	F	4*

- Trimmer for adjusting valve opening time.

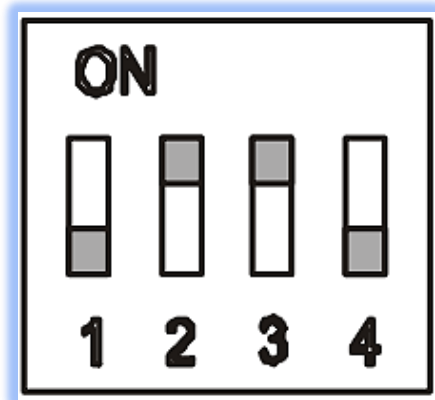


Valve operation time:

Min. (0.08 s).....Max. (0.65 s)



- DIP-switch for setting of different options.

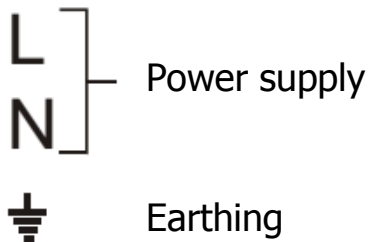
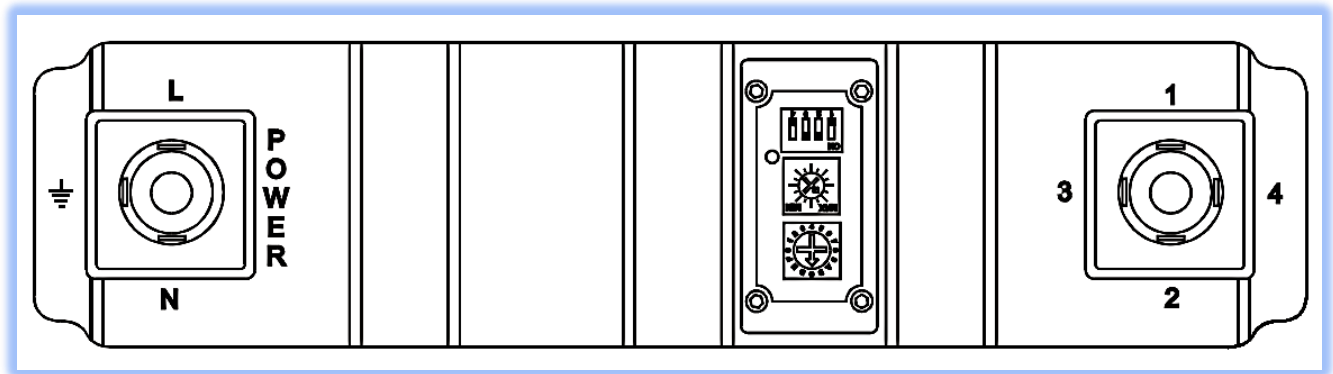


DIP 1	ON	Post-cleaning enabled
	OFF	Post-cleaning disabled
DIP 2	ON	See the Table below
	OFF	
DIP 3	ON	
	OFF	
DIP 4	ON	Test operation (pause 1 s)
	OFF	Normal operation (pause adjusted by the rotary regulator)

DIP 2, DIP 3 – allow for setting of operation parameters for a number of the installed valves only.

Valve No.1 – is the one closest to the power supply connector.

Installed valves		1,2,3,4,5,6	2,3,4,5,6	3,4,5,6	3,4,5	3,4
DIP 2	DIP 3	Valve operation	Valve operation	Valve operation	Valve operation	Valve operation
ON	ON	1,2,3,4,5,6	2,3,4,5,6	3,4,5,6	3,4,5	3,4
OFF	ON	3,4,5,6	3,4,5	3,6	4,5	3
ON	OFF	3,4	3,4	3,4	3,5	4
OFF	OFF	2,3,4,5,6	3,4,5,6	3,4,5	3,4	3,4

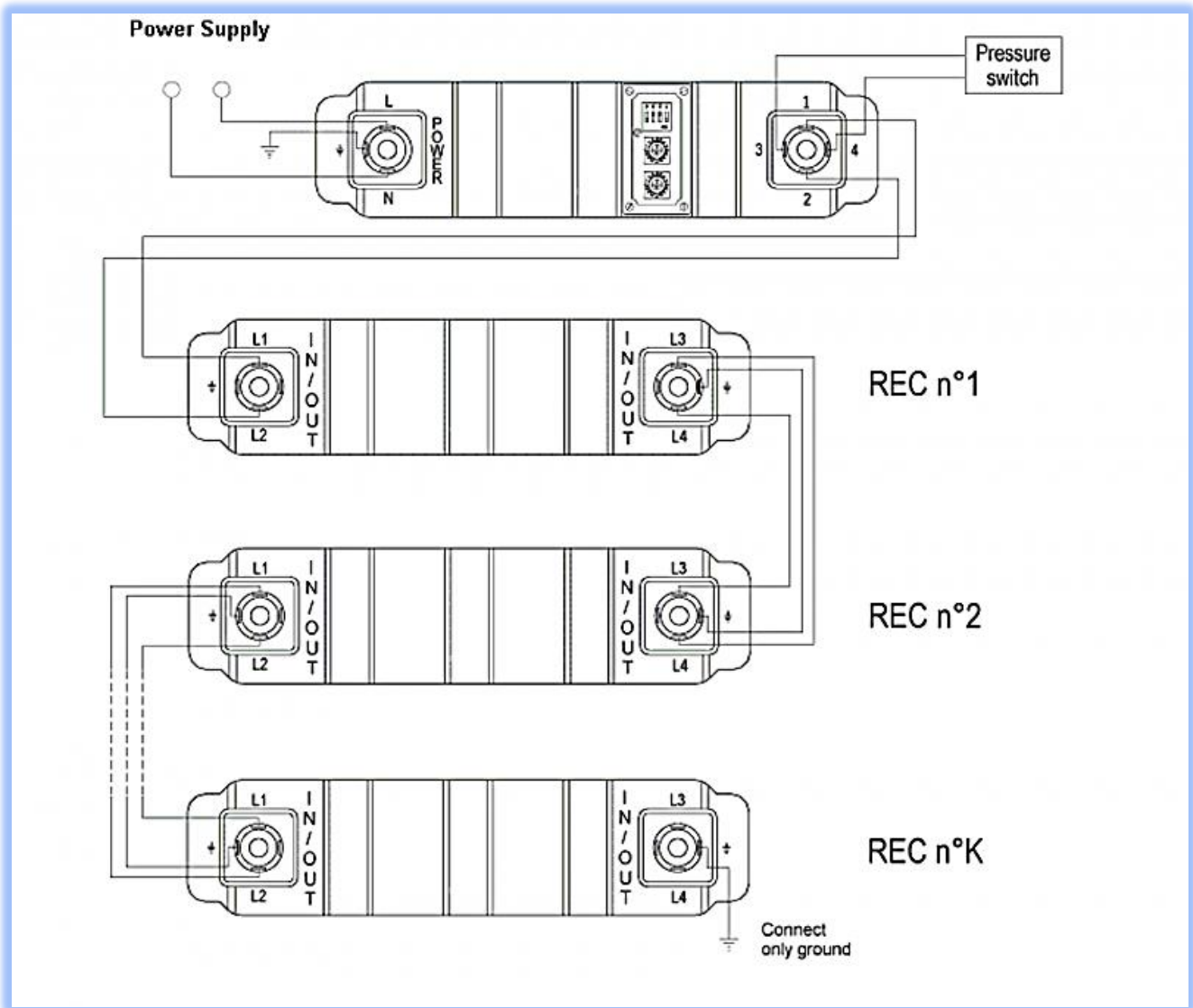


Grounding and power supply for the controller are connected through the black connector. The controller is equipped with internal diode rectifier bridge, so both AC and DC power supply can be used.

Thus, if the controller is powered by DC supply, polarity does not matter.

The grey connector is used for connection of several controllers in parallel (see the description below).





## 5. Operation of the plant

### 5.1. Operation

To launch the system, press the "Start" button on the control panel. To stop the operation of the system, press the "Stop" button on the control panel. The operation of the aspiration stand is possible both along the whole length of the installation and by operating the parts (right, left) of the aspiration stand to save energy. This is possible by controlling the operation of the required blowers on the right and left working area of the aspiration stand, respectively.

When the system starts up, the dirty air from the working area is drawn through the perforated panels into the filter chamber. The driving flow of the polluted air is distributed to the filter elements, where the dust and air mixture is filtered. The coarse fraction of the dust is partially deposited in the containers, the rest of the coarse fraction as well as the fine fraction of the residue which is collected on the filter elements of the machine is knocked down by the compressed air of the filter cleaning system into the container. The purified air is drawn through the plant and fed back into the work area from above, which facilitates the settling of dust in the work area into the modular floor. Compressed air cleaning is performed automatically throughout the entire machine cycle and can be adjusted for optimum system performance. It is worth noting that the cleaning system operates for a certain period of time even after the shutdown of the aspiration stand, as the filter elements are cleaned afterwards.

The collected dust is unloaded from the containers after the machine has been switched off and the blowers have stopped completely. To remove the dust from the container, remove the bottom panel and pull the container out from under the filter area, and after emptying the container, perform these actions in reverse order.

It is recommended to empty the collected dust from the containers as it accumulates, but at least once a week, when the plant is operating at an average rate of operation. The optimum container cleaning cycle should be determined during the working process. It is also necessary to clean the modular floor of the working area of the aspiration stand by lifting the floor grilles and removing the accumulated dust from underneath them. Regular dust cleaning of the plant should be carried out to ensure proper operation.

The clean air area above the filters should be checked for dust deposits, which may indicate that the filter elements are damaged or that contaminated dust and air mixture from the work area is being sucked in. Both damage to the filter media and air intake from the work area will have a negative impact on the plant, so it is important to detect and correct these problems in time. To inspect the clean air area,

the top panels must be removed and visually inspected. It is also necessary to visually inspect the filter material of the upper dispenser boxes, where dust deposits may accumulate. It is recommended to perform this inspection at least once a month.

## 5.2. Operating conditions

Indoor conditions:

- Air temperature: -10 to +45 °C
- Air humidity: up to 90%

The equipment is not designed for handling any gaseous mixtures except atmospheric air, unless otherwise stated by written consent of the Manufacturer.

This plant was designed and manufactured to handle any air / non-flammable dust mixtures.

It is forbidden to transport any other highly flammable materials without the written consent of the Manufacturer.

Filtration plants shall not be used for treatment of air that contains paint, large and long fractions of sawdust, cloth, foreign metal inclusions or any other objects that can damage the blower, filter and the plant.

Do not remove filter elements and the dust collecting bags/bins. It is allowed to remove filter elements and the dust collecting bags/bins during maintenance or for repair purposes and only when the control panel is deenergized. Do not perform any interventions when the plant is in operation.

## 6. Maintenance



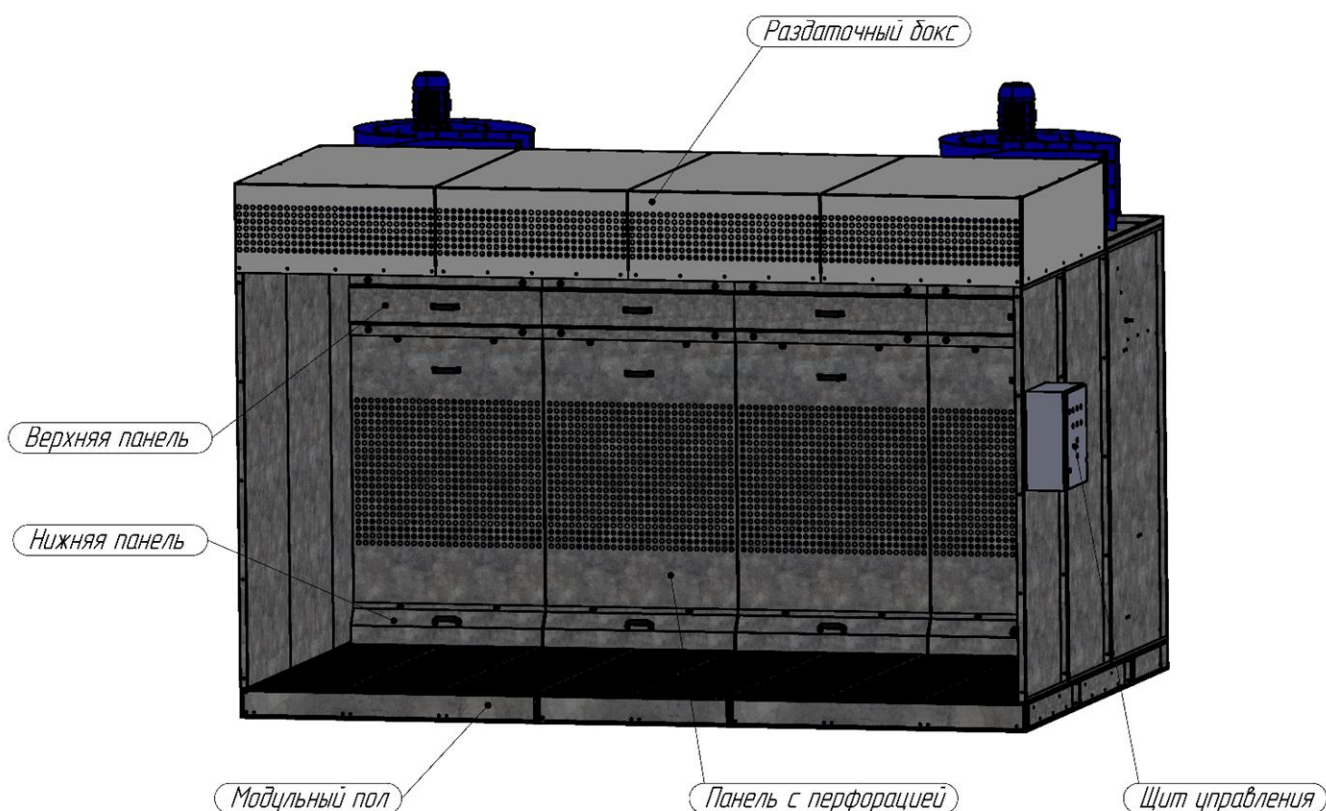
**CAUTION! Any maintenance works shall be performed when the equipment is switched off**

### 6.1. To clean the equipment, perform the following:

- Disconnect the equipment from the power supply by disconnecting the power cable from the control panel of the aspiration stand;
- Disconnect the protective bottom panels, and remove the containers, discharge the accumulated deposits.
- Disconnect the top panels of the clean air section and the perforated panels of the filter section. Then disconnect the cover plates in front of the filter elements.
- Check the filter elements visually; if there are dust deposits on the filters, clean them.

- If the filters are damaged, disconnect the respective filter and replace it.
- Clean the plant from possible dust deposits.
- Replace the filters in the upper dispenser boxes as they wear out.

Personal protective equipment should be worn to control the measures listed above.





**CAUTION! Keep any ignition sources (cigarettes, flames, sparks) away when performing cleaning operations.**

## **6.2. Regular condition monitoring**

Regular condition monitoring of the plant and its filter elements is of critical importance for ensuring adequate safety level and prevention of explosion and fire risk, which may be attributed to deposition and accumulation of highly flammable particles inside the filtering plant. When moving, the accumulated highly flammable dust particles create potentially explosive dust cloud, so such dust deposits and accumulations shall be minimized. The dust deposits can also ignite due to exposure to hot surfaces, sparks and flame.

## **6.3. Regular maintenance**

Every 600 hours of operation:

- Listen for noise from the rotating motor parts, impeller, bearings.

Every 1,200 hours of operation:

- Check bolt connections for tightness.

Every 2,400 hours of operation:

- Check balance of the blower impeller(s)

Every 1,600 hours of operation:

- Clean and lubricate bearings, replace if necessary.

Every 650 hours of operation:

- Remove and clean the filter elements, replace if necessary.

#### **6.4. Assembly / Disassembly of blower blades**

- Unscrew the blower and remove it.
- Disassemble the inlet nozzle of the blower.
- Take off the fixing screw and spacer that fix blower blades on the shaft.
- Remove the blower impeller with the help of a puller by inserting the spacer between the blower support and the shaft to avoid damages to the shaft.
- Assemble in reverse order.

#### **6.5. Disassembly of blower blades support**

- Remove the blower blades as described above
- Unscrew the support and change, if necessary, interior parts of the support and bearings.
- Assemble in reverse order

#### **6.6. Cleaning of blower blades**

Blower blades must be statically and dynamically aligned so that there is no vibration. Regularly check the cleanliness of blower blades. Oil fume, resins, air humidity and other factors contribute to the adhesion of dust, grease and other materials to blower blades, which leads to its disbalance resulting in damage of the motor and the body frame of the blower.

The markers are enhanced noise and vibration.

In order to clean blower blades, firstly check that the motor is disconnected. All actions must be carried out through the inspection window of the blower. Clean blower blades with the brush. When cleaning you should clear all contaminants. If they remain, it may result in disbalance.

Aton Service LLC declines any responsibility in case of damages to the motor, the body frame and blower blades, that were caused by the adhesion of dust.



### **6.7. Filter elements**

- Damage of filter fabric results the through airflow.
- Average life. Given that the filtering element is used correctly with inviscid materials, without penetration of foreign objects that can damage the fabric of the filter, without any humidity, the average life of the filtering elements constitutes 12-24 months.
- ◆ Installation of filter elements. If the filter elements are worn or damaged, they are replaced by removing the disc from the filter. To do this, remove the sealing panel from the top of the plant by unscrewing the panel locks. Disconnect the receiver and unscrew the bolts that fix the required filter disc. Pull out the filter disc and replace it. Put the filter disc and other components that have been removed back into place.

### **6.8. Complementary maintenance**

In cases where the installed blower transports very dusty air or where pneumatic transport of material of different origin is carried out, specific maintenance is required. Blower blades may get dirty very often. For this reason, working parts should be verified more often. It is recommended to authorize the serviceman to conduct and bear the responsibility for the maintenance of blowers.

## 7. Other terms

### 7.1. Verification



**ATTENTION! The following operations must be carried out by qualified servicemen with disconnected equipment.**

Object of verification	Frequency of maintenance	Work to be done
Overview of the clean air zone	Once a month	Verification
Filtering elements	Once a month	Verification
Screws and nuts	After the first 500 running hours, then once a year	Check the tights
Caution plates	Every 6 months	Check that the plate is legible and undamaged

## 7.2. Troubleshooting tips



**ATTENTION! The following operations must be carried out by qualified servicemen with disconnected equipment and only after contacting the Supplier of the equipment.**

PROBLEM	POSSIBLE CAUSE	SOLUTION
The system does not intake the air	<ul style="list-style-type: none"> <li>◆ The system does not intake the air right after the assembly.</li> <li>◆ Clogged filters</li> </ul>	<ul style="list-style-type: none"> <li>◆ Wrong rotation direction of the blower.</li> <li>◆ Clean or replace filter elements</li> </ul>
The dust goes through the filtering elements	<ul style="list-style-type: none"> <li>◆ The dust goes through the filtering elements</li> </ul>	<ul style="list-style-type: none"> <li>◆ Damaged filters</li> <li>◆ Expired average life</li> <li>◆ The filter is out of the pockets</li> </ul>
The dust goes out of accumulation bags/containers	<ul style="list-style-type: none"> <li>◆ The dust goes out of accumulation bags/containers</li> </ul>	<ul style="list-style-type: none"> <li>◆ Damaged bag / container</li> <li>◆ Wrong fixation (leakness appears)</li> </ul>

### 7.3. Blower running problems and their solutions

Problem	Possible cause	Solution
Insufficient volume of moving air	<ul style="list-style-type: none"> <li>◆ Wrong rotation direction</li> <li>◆ Partial clogging of air pipes or air intake areas</li> <li>◆ Insufficient RPM number</li> <li>◆ Dusted blower blades</li> <li>◆ Clogged filters</li> </ul>	<ul style="list-style-type: none"> <li>• Change phases of the motor</li> <li>• Clean air pipes, check slide gates</li> <li>• Check the voltage and the state of electrical contacts</li> <li>• Clean blower blades</li> <li>• Clean the filters more frequently</li> </ul>
Complicated start	<ul style="list-style-type: none"> <li>◆ Excessive power drain</li> <li>◆ Insufficient torque of the electric motor</li> </ul>	<ul style="list-style-type: none"> <li>• Change the electric motor</li> <li>• Check the data about the electric motor in accordance with the technical documentation</li> </ul>
The power drain of the blower exceeds the one indicated in technical documentation	<ul style="list-style-type: none"> <li>◆ Dusted filters</li> <li>◆ Adhesion of dust to blower blades</li> <li>◆ Partially clogged air pipes / air intake areas</li> </ul>	<ul style="list-style-type: none"> <li>• Clean the filters more frequently</li> <li>• Clean blower blades</li> <li>• Clean air pipes and check slide gates</li> </ul>
Excessive noise	<ul style="list-style-type: none"> <li>◆ Disbalanced blower blades, displaced in relation to the body frame.</li> </ul>	<ul style="list-style-type: none"> <li>• Check the accuracy of assembly and the state of blower blades</li> </ul>
Excessive vibration	<ul style="list-style-type: none"> <li>◆ Disbalanced blower blades or other spinning parts</li> </ul>	<ul style="list-style-type: none"> <li>• Cleaning or change</li> </ul>

#### 7.4. Diagnostics

Conclusion	Possible cause	Solution
Reduced efficiency	Clogged air pipes or aspiration pipes	Clean air pipes, check slide gates
	Insufficient RPM number	Check the voltage and the power connection of the motor
	Wrong rotation direction	Check the accuracy of the power connection
	Adhesion of dust to blower blades	Disconnect the system and clean blower blades
	Loss of air caused by disrupted air tightness or by badly connected air pipes.	Check the air tightness of joints
	Blower blades are partially blocked or damaged	Check the mounting position of blower blades and its condition
Reduced pressure	The pressure is lower than the designed one	Change the blower
	The impeller is installed in the wrong direction	Contact the Supplier for further action
Complicated start of the blower	The blower works at zero power	Change the blower
	Damaged bearings	Check the condition, lubricate, change if necessary
	Disbalanced blower blades that contact the body frame	Check the condition

### **7.5. Warranty conditions**

- The warranty term constitutes 12 months as of the date of signing of the invoice or Act of Acceptance, but does not exceed 18 months as of the moment of dispatch, unless otherwise stated in the contract.
- The warranty shall mean the obligation of the Supplier to provide the Buyer for free with the nondefective part (component) instead of a defective one if the defect is due to the manufacturer's fault. The substitution of the part (component) shall be carried out as soon as possible, but not later than 30 business days as of the written claim of the Buyer related to the detected defect on the basis of the reclamation act. The claim related to the substitution of the part (component) shall be made by the Buyer solely in writing form and shall contain the model of the equipment, its serial number and the description of the defect.
- Assembly (disassembly) of the component shall be carried out by the Buyer. The Buyer may charge the Supplier with this operation. The operation and payment conditions shall be agreed separately.
- Starting up and adjustment operations, and installation works of the equipment (if required) shall be carried out by the Supplier's specialists or by the third parties who are authorized by the Supplier to conduct these operations, otherwise if these works were carried out by unqualified staff and caused the equipment to malfunction, warranty liabilities no longer apply.
- In case of a defect detection, the Buyer must notify the Supplier within 05 (five) business days as of the moment of the defect detection, in writing form, by sending (registered letter with notification) the reclamation (defective statement).
- The Supplier must provide a specialist within 05 (five) business days after the receipt of the reclamation in order to examine the equipment and, if necessary, to draw up a Reclamation act.
- The Reclamation act shall be signed up by the Parties within 05 (five) business days as of the day it was drawn up.
- Warranty liabilities no longer apply in the event if the Buyer violates any of the following stipulations:
  - the equipment is used for its intended purpose or in accordance with the relevant instructions of the Supplier or the manufacturer;
  - regular maintenance of the equipment is carried out in accordance with the requirements of the Operation Manual;

- any engineering changes and adds-on shall be made solely upon the Supplier's written consent;
- the integrity of the seals provided by the operational documents is ensured;
- the operation of the equipment is carried out by the persons who underwent relevant training and are familiar with the operation conditions, authorized and forbidden methods of work, maintenance order, safety rules (for example, they acquired knowledge during start-up and adjustment works);
- observance of all conditions of transportation, preservation and shipping of equipment;
- observance of operation conditions and connection of the equipment (power and pneumatic connections) and their conformity with the Operation Manual of the equipment;
- use only original spare parts authorized by the manufacturer;
- compliance with the conditions of humidity in premises where the equipment is operated (plants for internal use).
- Warranty liabilities of the Supplier do not apply in case of damages caused by force majeure events as well as cases of natural wear and exploitation of components and spare parts, such as:
  - driving belts;
  - rubber blades, plastic articles and woven fabrics;
  - light bulbs, fuses and similar parts;
  - running screws, screw nuts, gear segments, gear wheels.
- Equipment or its components, which are included to the Buyer's reclamation (defective statement), must be provided to the Supplier's representative in order to verify its validity within 14 calendar days as of their breakdown. Otherwise, the replacement of the spare part (component) will be provided on a fee paid basis.
- The warranty excludes defects which were caused by the following factors:
  - unskilled operation or external influence (e.g. scratches, dents, other deformations);
  - dirt of any origin;
  - maintenance and other use of the equipment that was carried out by unskilled staff who did not undergo training provided by the company of the Supplier or have not received permission from the Supplier;
  - damages caused by improper transportation of the equipment by the Buyer.

- The Operation Manual provided by the Supplier to the Buyer is mandatory to follow. The Buyer has the right to request in writing an additional copy of the Operation Manual, and the Supplier has the right to provide it in paper or electronic form.
- The Buyer's claims as for damages that may be due to the stop or standing time of the equipment, are not accepted nor considered by the Supplier.
- Warranty is applied only for components or details change, which, according to the Aton service LTD assessment, had the factory's defect. Any other obligations, any other responsibility, full or partial, for other losses, direct or indirect, coming from the usage or impossibility of usage of equipment are excluded.

### **7.6. Safety notices**

The filtering plant removes dust and accumulates it in bags/containers. If the dust is flammable (e.g. wood, plastic, aluminum, magnesium, etc.) and it comes into contact with a source of ignition (open flames, sparks), there is a risk of fire. The Buyer must follow the instructions contained in this Operation Manual and act in accordance with the fire safety regulations. Special attention must be paid to internal cleaning operations, as well as to cleaning of external parts in order to avoid excessive accumulation of flammable dust. Make sure that no sources of ignition, such as coals, sparks, open flames, cigarettes or any other sources can get through air intake holes.

### **7.7. Transportation, packaging and storage**

- Transportation (if operated by the Buyer). Every equipment shall be verified and tested before the dispatch. The warranty period starts with the date of supply and covers the quality of production and material. The customer of transportation bears the responsibility for damages occurred during transportation. Disassembled filtering plant is packed in plastic or cardboard. All waste from packaging must be disposed of in accordance with the legislation in force. Transportation must be carried out carefully to avoid overturn and fall of the equipment. Lifting and transportation must be carried out by appropriate vehicles and lifting equipment. Transportation must be carried out in accordance with the regulations in force to avoid possible accidents.

- Discharge. In order to discharge the equipment, you must use the help of professional loaders or qualified staff with the relevant experience in discharge of this kind of equipment.



- Do not remove components that are used to block parts of the equipment during transportation until all parts are discharged and placed.
- Follow the instructions when moving the components. Use the marks for elevation and mounting.
- Storage and moving (if carried out by the Buyer). The equipment must be protected from the effects caused by atmospheric factors, dust and possible fall of foreign objects on the equipment. If there is a big period of time between the date of delivery and the date of assembly, it is necessary to periodically (every week) check the blower by scrolling it manually in order to avoid damaging the bearings. It is forbidden to leave the blower blades inactive for a long period of time. The manufacturer is not responsible for damages to equipment caused by a long standing time.

The size and the weight are shown in Technical Data table, point 1.5.

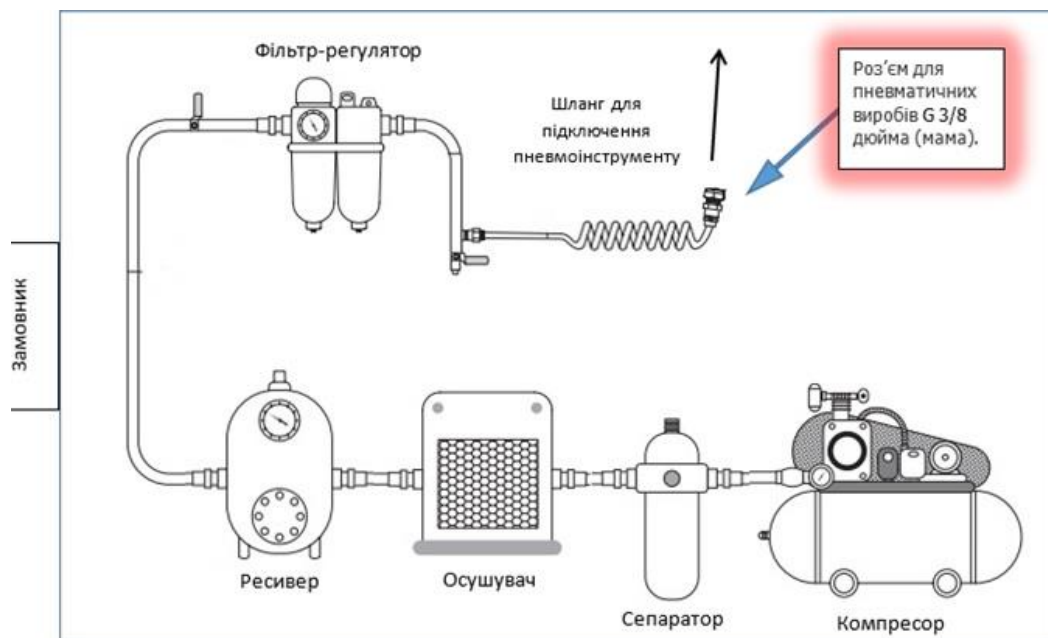
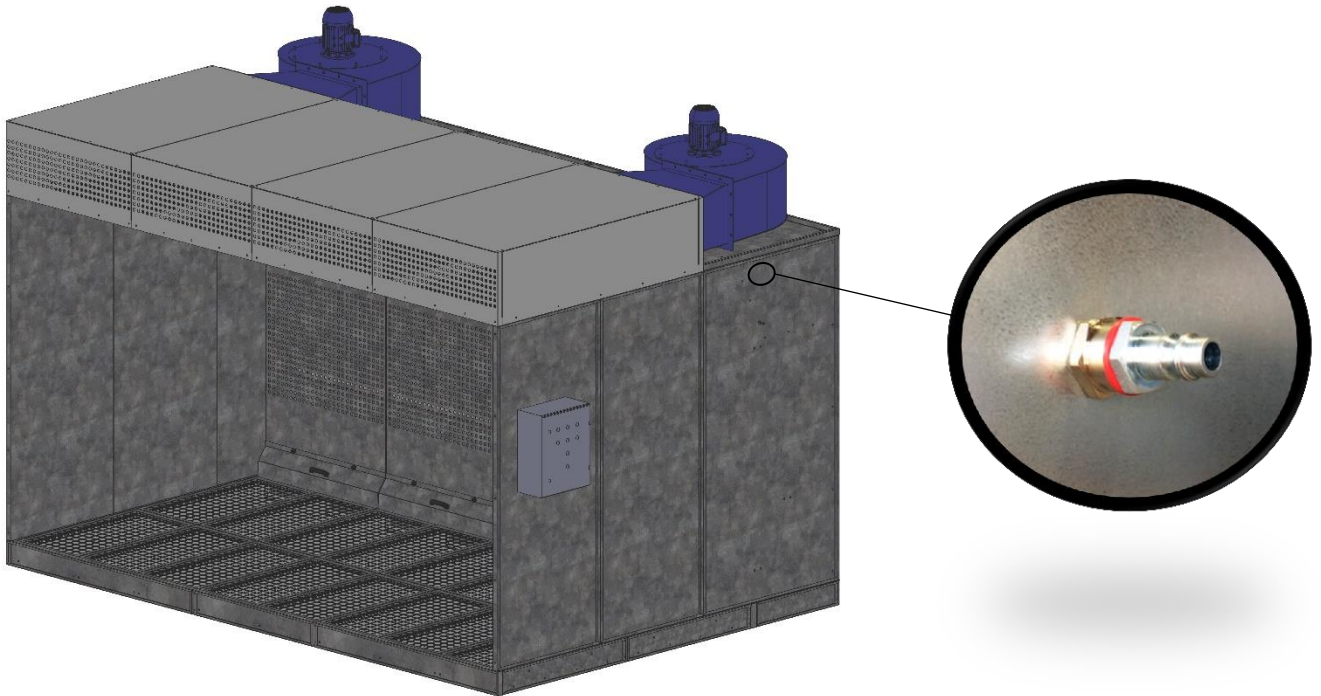


## 9. Appendixes

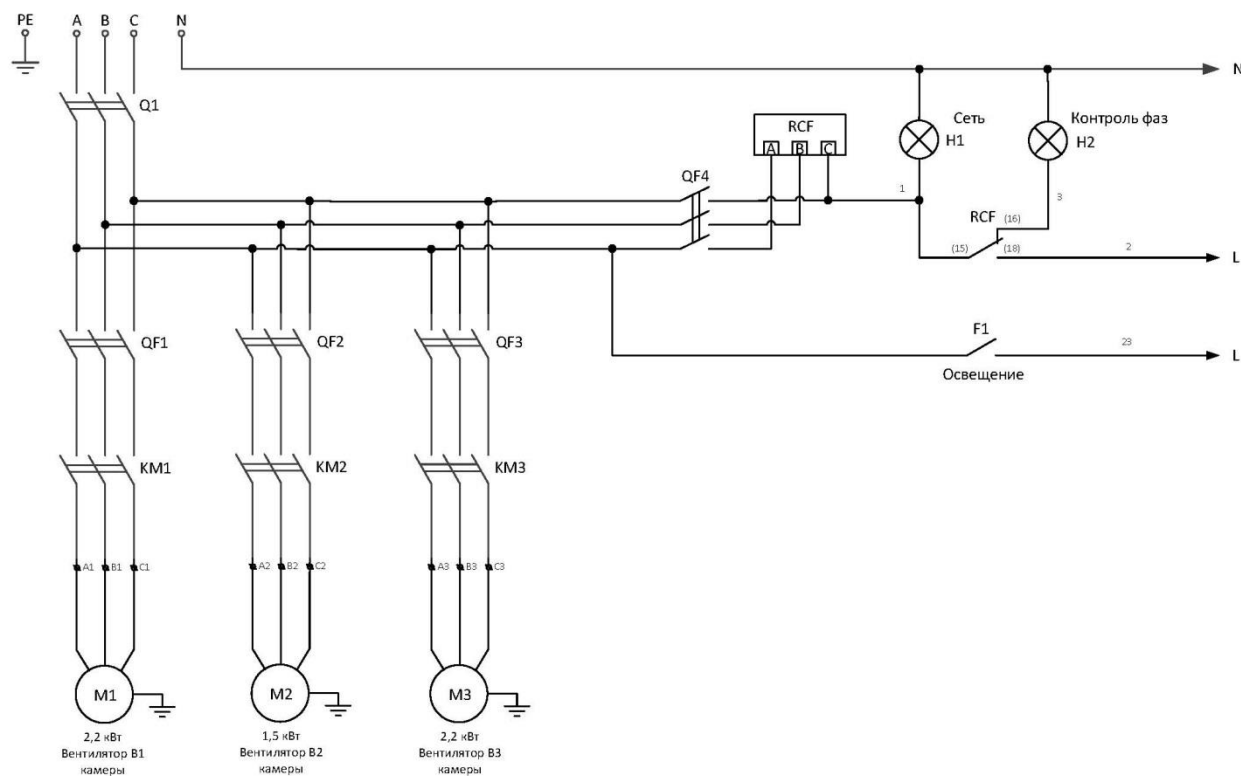
**Appendix №1 - Prefabricated drawing (see attached drawing).**

**Appendix №2 - Compressed air connection.**

**The location of the connector is specified in agreement with the Customer.**



## Appendix №3 - Wiring diagram of the control panel.



1

