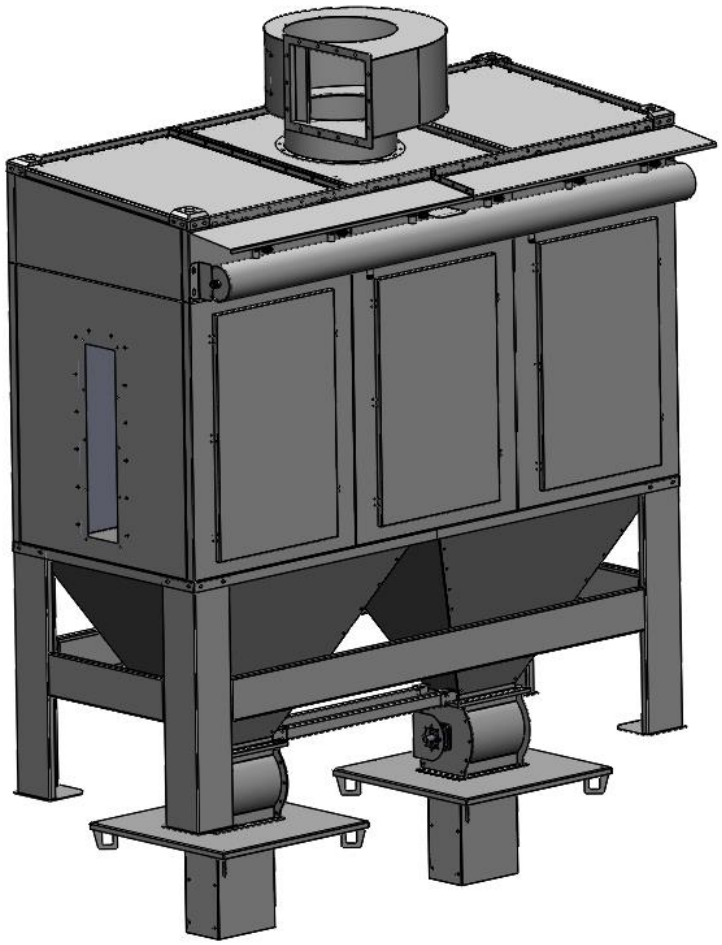
OPERATION MANUAL

FILTERING PLANT FSC-AS 12



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

Content

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 FSC AS 12 filter plant is a cartridge filter plant with an automatic compressed air cleaning system designed for vacuum operation. The plant is equipped with a highly efficient electric blower with high suction power and sound insulation, as well as a fire extinguishing system. It consists of a working area with a deposition chamber, which enables dust deposition, a filter compartment with reverse cleaning system, equipped with an extended storage chamber, and also includes metal cones for further transportation to a "BigBag".

The filters are cleaned automatically, which is controlled by the solenoid valves, cleaning the filters in one go. Load losses are thus optimized with the constant air flow.

The plant can be used to filter out the following contaminants: wood chip board, MDF, dry chippings, dust, PVC, expanded plastic, coal dust, stone dust, composite materials. Fields of application: woodworking, furniture manufacturing, metalworking, pharmaceutical industry, grinding machines/operations, handling of bulk materials, agricultural industry.

1.4. Plate

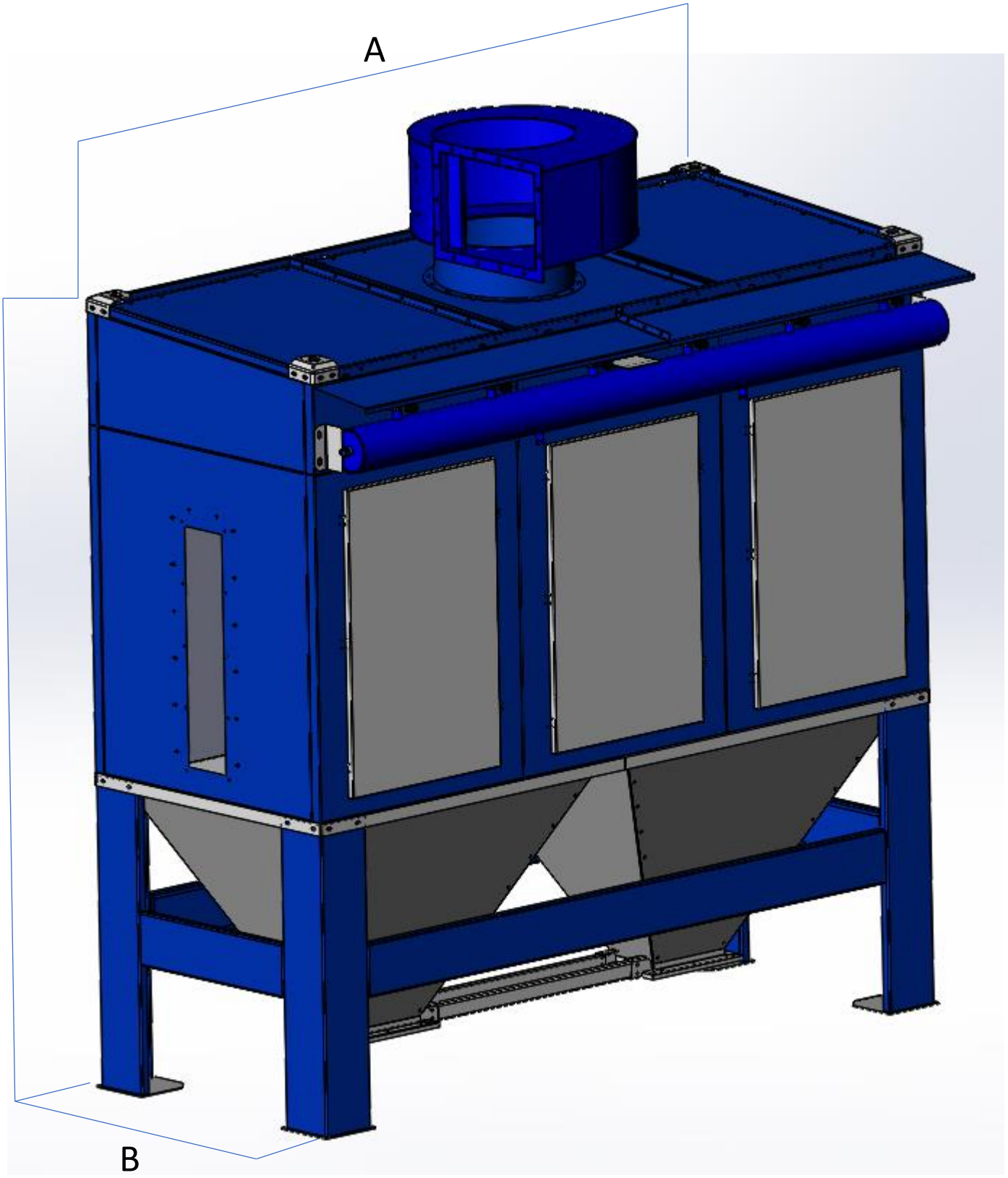
The identification mark is made on the plate which is pasted to the equipment and contains the information about the equipment. The plate shall be placed in plain view.

Identification plate:

- **Series and model**
- **Date of manufacture**
- **Serial number**

1.5. Technical data

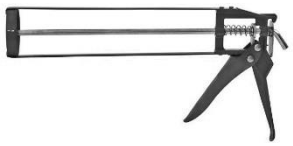
Item	FSC-AS 12
Air delivery, m³/h	14000
Total pressure, Pa	1800
Power, kWt	15
Filtering surface,m²	156
A, mm	1220
B, mm	3000
H, mm	2960
Weight	850
Size of filtered particles	➢ 0,3 мкм
Way of accumulation	Big Bag
Accumulation volume, m³	0,5
Temperature	до 120°
Blower	RL-AS 500 /15 кВт
Type of filter	100% polyester with PTFE membrane
Number of filters	12

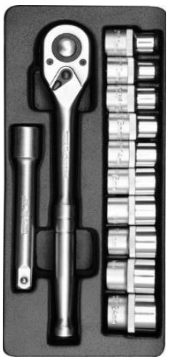

A
H
B

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

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

Protective clothing. Use protective clothing in order to avoid damages to your body when assembling.

Footwear. Use safety footwear in order to protect your feet from heavy parts which can fall when assembling.

2.3. Completeness of equipment

Before the assembly work, make sure that all the necessary parts and components are available on the basis of the list of components of the plant.
Depending on the efficiency of the plant it may consist of the following parts:

- Framework structure of panels made of 1.0-2.5 mm thick galvanized sheet;
- Membrane filters with high filtration performance;

- Compressed air tank with solenoid valves;
- High efficiency blower;
- Fire extinguishing system;
- Control panel;
- Discharge plant into Big Bag;
- Rotary valve RV – 30.

All component elements of the plant are listed is the shipment checklist for standard or extended delivery. Standard scope of delivery includes only equipment initially offered by the manufacturer, and extended scope of delivery additionally includes options requested by the customer.

3. Assembly

3.1. Preliminary instructions

- The plant is delivered disassembled and is assembled on site.
- For ease of installation, use the application, drawings and specifications, tasks for electricians, plumbers and construction workers.

3.2. Location

- The location of the equipment must comply with easy access to the compressed air connection and water to fire extinguishing system.
- 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. Errors and display visualization

<table>
<tr><th colspan="2">DISPLAY VISUALIZATION</th></tr>
<tr><td colspan="2">- The display shows a variety of system information regarding pressure, output number or cleaning order, cycle status and analogue output value. There are 2 or 3 visualization menus (3 if the analogue output is on), selected using the Inc (·) button, while the Dec (·) button indicates which menu is being visualized. The three menus are distributed as follows:</td></tr>
<tr><td colspan="2">- Menu 1 ° determines the pressure value read by the meter;
- visualization "Pr."
- then a number to identify the pressure measurement plant:
"0" tensPascal
"1" mmH2O
"2" mbar
"3" KPa
"4" mmHg</td></tr>
<tr><td colspan="2">Menu 2 ° determines the system status, the output number or cleaning command and the command to open or close the hearth;</td></tr>
<tr><td>- if the system is in STOP or almost stopped, you will see:
- system status is CLEANING, you will see:</td><td>“S.xx”
“U.xx”
(If it matches the output signal)</td></tr>
<tr><td></td><td>“C.xx”
(If it matches the command)</td></tr>
<tr><td>if the system is in POST, you will see:</td><td>“P.xx”</td></tr>
<tr><td colspan="2">In all these system states, on the xx side, you can see the following formulations:</td></tr>
<tr><td colspan="2">- OP (if it's a valve to open the cell)
- CL (if it's a valve to close the cell)
- SC (when starting the cycle)
- Enb. (If the system is in standby mode)</td></tr>
<tr><td colspan="2">Menu 3 ° (if enabled) defines the value of analogue output - visualization: - "Cor". (If the output is in current mode) - visualization: - "Vol. (If the output is in voltage mode).</td></tr>
<tr><th colspan="2">ALARMS VISUALIZATION</th></tr>
<tr><td colspan="2">There are different types of alarms in ECOMATIC-NET, listed here:</td></tr>
</table>

1) Triboelectric alarm: in case of triboelectric alarm, the display will show the flashing alarm code "E n" (if P38 = 0, where "n" is the output number where the alarm was detected) or the flashing alarm code "F n" (if P38 ≠ 0, where "n" is the cleaning command where the alarm was detected).

2) Load Alarm: In case of a load alarm, the display will show the flashing alarm code "H n" (if P38 = 0, where "n" is the output number where the alarm was detected) or the flashing alarm code "L n" (if P38 ≠ 0, where "n" is the cleaning command where the alarm was detected).

3) Tank pressure switch Alarm: In the event of an alarm, the tank pressure switch on the display flashes the alarm code "A 1".

N.B.1: Alarm 1 (if P 28 = 0) has an automatic reset if the condition returns to the set limits.

N.B.2: With the Inc () and Dec () buttons, all alarms can be reset by pressing simultaneously for 1 second while the pressure is being visualized.

VISUALIZATION ERRORS

PRESSURE ERROR

When the device visualizes the pressure value, there are two indicators within range:

If the input differential pressure is higher than the set positive value of the full scale, the display will show "EEE".

If the pressure is below the set negative full scale, the display will show "-EE".

E2PROM ERROR

In case of problems with the E2prom configuration, the plant will display "---" to show the loss of programming and configuration information.

Pressing Dec () will reboot the normal function of the tool, as well as the default data, although it will be necessary to once again configure and program by qualified experts of the company.

PRELIMINARY PROCEDURES

When switched on, the plant is ready for visualisation of the differential pressure read by the internal sensor.

With the Inc () or Dec () button you can see the visualization of the pressure, the number of the valve to be cleaned and the value at the analogue output (if switched on). To enter the configuration or programming menu, simply press the E key: the display will show a flashing H 00, which allows you to enter a password to access the menu.

The configuration menu has a unique structure, but the programming menu has two structures:

- quick access menu without password (all values allowed as a password) for programming

parameters from P1 to P6; - password access menu (password value 7), to program all parameters. The configuration menu has a value of 29 as a password.
Pay attention to this menu, because this is where the correct board function starts.
Once the password has been put in, you can view all the parameters one by one by one by pressing the Inc or Dec key continuously. To exit the configuration menu, press the Inc and Dec keys simultaneously. You exit the programming menu automatically after 10 seconds when you do not press any key while scrolling through the parameters.

PROGRAMMING PARAMETERS

The following table shows all available parameters, explains the function and the permissible value range.

Param. Eco	Function	Possible values	Additional information
L1	Hour counter	0 - 65534 hours	Hour counter operation
L2	Cycle counter	0 - 65534 cycles	Cycle counter operation
P1	Functional modality	0 – 24	Operation of Ecomatic-net
P2	Pause - cycles / h Automatic or pause - cycles / h max Automatic pause.	Pause 1-999 seconds or minutes. Cycles: 1-30 cycles / hour	Automatic operation and automatic pause
P3	Pause - cycles / h Manual / Remote / Synchronous or pause - cycles / h minimum Automatic pause		
P4	Working time	0.03 - 9.99 seconds 0.3 - 99.9 seconds 3 - 999 seconds 30 -	Working Time Table

		9990 seconds	
P5	Start cleaning or maximum pressure Automatic pause	From 0 to F.S. positive	Automatic and automatic pause
P6	Final cleaning pressure or minimum pressure Automatic pause	From 0 to F.S. positive	
P7	Postinfection function.	0 = Disconnected 1 = Internal 2 = External	Postinfection function
P8	Time after cleaning or selection of cycles.	0 = Time 1 = Cycles	
P9	Value of time or cycles.	1 - 999 seconds 1 - 999 cycles	
P10	Internal pre-cleaning pressure differential	From 0 to F.S. positive	Cleaning the work desk
P11	Pause time after cleaning	1 - 999 seconds or minutes	
P12	Working time after cleaning	0,03 - 9,99 seconds 0,3 -99,9 seconds 3 - 999 seconds 30 - 9990 seconds	
P13	Relay 1 trigger threshold	From 0 to F.S. positive	Relay output
P14	Relay 1 mode selection	0 – 15	
Param. Eco	Function	Possible values	Additional information
P15	Relay 1 function.	0 = Normal	Relay output

		1 = Hysteresis Pressure 2 = Fluctuates	
P16	Relay 1 function value.	From 1 to F.S. positive or 1 to 999 seconds	
P17	Relay 2 trigger threshold	From 0 to F.S. positive	Relay output Note: not in ECOMATIC-NET 4/6 model
P18	Relay 2 mode selection	0 – 15	
P19	Relay 2 function.	0 = Normal 1 = Hysteresis Pressure 2 = Fluctuates	
P20	Relay 2 function value.	From 1 to F.S. positive or 1 to 999 seconds	
P21	Activate pre-coating.	0 = Off 1 = On	Pre-coating work
P22	Pre-coating threshold	From 0 to F.S. positive	
P23	Functioning hours	0 = always on 1 = pressure change 2 = cleaning phase	Functioning hours
P24	Counter pressure threshold	From 0 to F.S. positive	
P25	Number of repetitive shots for each output.	1 - 10 shots	Periodically repeated shots

P26	Pause time between consecutive shots	1 - 999 seconds or minutes	
P27	Tribe alarm detection time	0 = off 1 - 999 seconds	Alarm functioning
P28	Maximum number of valves for tribe alarm jumps	0 = None	
P29	Device ID for RS485	1 – 254	Serial number RS485 connection
P30	Set data transfer rate RS485	0 =4200 1 =9600 2=19200	
P31	Parity discharge regulation	0 = None 1 = Even 2 = Odd	
P32	Pressure value corresponding to the minimum value of the analogue output	From 0 to F.S. positive	Analogue output operation
P33	Pressure value corresponding to the maximum value of the analogue output	From 0 to F.S. positive	
P34	Pause time fr external contact	1 – 999 seconds	External pause
Param. Eco	Function	Possible values	Additional information
P35	Tank manostat alarm time	0 = off 1 - 999 seconds	Tank manostat operation
P36	Tank manostat d with sequential	1 – 999 Kpa	
37	Number of valves or command in cleaning mode	1 - command n or	Cleaning number or EV command function

		1 - command n-1	
P38	Ev command method	0 – 6	Ev command method
P39	Valve actuation time for opening / closing the hearth	0,50 - 9,99 seconds	ON-LINE / OFF-LINE functioning
P40	Time until cell cleaning	1 – 999 seconds	
P41	Time until cell opening	1 – 999 seconds	
P42	Time until cycle start	0 – 999 seconds	
P43	Relay 3 trigger threshold	From 0 to F.S. positive	Relay output Note: not in ECOMATIC-NET 4/6/12 model
P44	Relay 3 selection	0 – 15	
P45	Relay 3 function	0 = Normal 1 = Hysteresis Pressure 2 = Standby	
P46	Relay 3 function value	From 1 to F.S. positive or 1 to 999 seconds	
P47	Relay 4 trigger threshold	From 0 to F.S. positive	Relay output Note: not in ECOMATIC-NET 4/6/12 models
P48	Relay 4 selection	0 – 15	
P49	Relay 4 function	0 = Normal 1 = Hysteresis Pressure 2 = Standby	
P50	Relay 4 function value	From 1 to F.S. positive or 1 to 999 seconds	

P51	Pressure plant	0 = tens Pa 1 = mmH2O 2 = mbar 3 =Kpa 4 = mmHg	Pressure measurement plant
H0	Zero pressure	Performed by specialized personnel only if the pressure with the ventilation openings in the open air is noticeably different from zero.	

5. Експлуатація установки

ATTENTION!

Before starting the aspiration system, check:

the proper attachment of the dust container;
compressed air connection;
fire suppression system water connection.

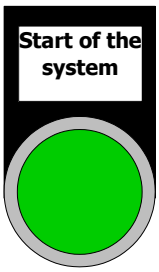
5.1. Operation

To switch on the installation, press the "System Start" button on the control cabinet. Contaminated air, led to the opening through ducts, is sucked in with the help of a blower, which works to vacuum the installation. The air enters the deposition chamber and is then distributed to the filter elements. The large and medium fraction of the dust immediately enters the transport cone. The fine and some of the medium dust fraction is filtered out through the filter cloth. The filtered dust gradually accumulates on the filter element and is knocked off by the airflow with a solenoid valve into the transport cone.
Dust collects in "big bag" type containers.
To stop the filter plant, press the "System Stop" button on the control cabinet.

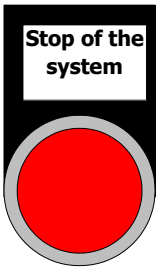
ATTENTION!!!

The plant has two levels of waste accumulation control. The first level is installed directly on the hangers of big-bags. When the big bag is full, the control box lights up and the dosing valve stops ejecting waste into the big bag. During this time, the "big bag" must be replaced and the dosing valve must be restarted using the control panel. If the plant operator does not react to the warning signal on the electrical box, the plant cones will continue to fill up until the second level sensor. After the second level sensor is triggered, the emergency alarm siren will go off. The plant operator has 10 minutes to prevent an accident and emergency stop of the engine. If the cone is full and the engine is shut down by the safety system, the plant is in an emergency state and cannot continue until the cone is completely cleaned and the "big bag" replaced.
The 15 kW power saving plant allows the blower speed to be adjusted according to the machines currently in operation. When the machine is switched on, a signal is given to the control panel, the gate air flap of the machine duct is opened and the blower is started. The system automatically controls the blower speed, giving the required power according to the machine requirements. The same happens when the machine is switched off. It is recommended to use the energy saving plant at the

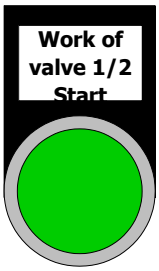
production facilities with a large number of machines (more than five), but under the condition that not all machines are working simultaneously.
The following control buttons and alarm lamps are displayed on the control cabinet:



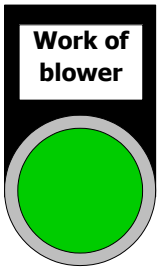
- Start of the system



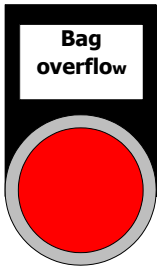
- Stop of the system



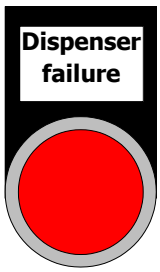
- Alarm lamp for rotary valve



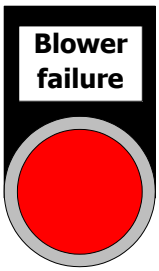
- Alarm lamp for blower



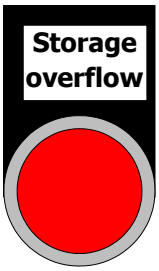
- Alarm lamp for big-bag overflow



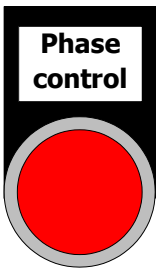
- Dispenser failure alarm lamp.



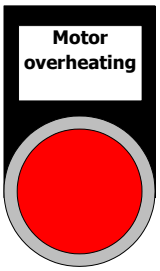
- Blower failure alarm lamp



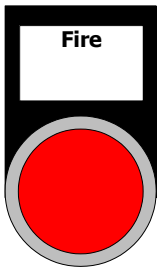
- Storage overflow alarm lamp.



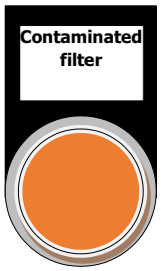
- Phase control alarm lamp



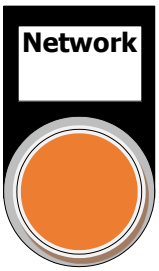
- Alarm lamp for blower motor overheating



- Alarm lamp for fire in the plant



- Filter contamination alarm lamp.



- Network alarm lamp

5.2. Operating conditions

Indoor conditions:

- Air temperature: -10 to +45 °C
- Air humidity: up to 90%
- Max. suction air humidity: 50%
- Max. altitude above sea level: 1,000 m

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

ATTENTION! All operations must be carried out with disconnected equipment.

6.1. Cleaning of equipment, cleaning / substitution of filters

In order to clean the equipment, perform the following actions:

- Disconnect the equipment from the power supply by turning the main switch to the "Off" position and wait for the full stop of the blower.
- Detach the bags/containers, dispose them of the accumulated material.
- Carry out a visual inspection of the filtering elements. If any deposits of dust appear on the filter, clean the filter.
- If the filters are damaged, disconnect the locking rings of the filter and change it.
- Clear the plant from possible dust deposits.
- Install waste bags/containers.

The operations listed above must be carried out with the use of personal protective equipment.

ATTENTION! Beware of any source of combustion (cigarettes, flames, sparks) when performing cleaning operations.

6.2. Regular control

Regular monitoring of the state of the plant and filter elements is very important as it ensures the appropriate safety level and prevents the risk of explosion and fire, which can be provoked by the deposit and accumulation of flammable particles inside the filtering plant. During the motion, the deposit and the accumulation of flammable particles create potentially explosive dust cloud, that is why you should minimize the volume of these deposits and accumulations. Deposits may also inflame after the contact with hot surfaces, sparks and flame.

6.3. Regular maintenance

Every 600 running hours:

- Check the noise of motor spinning parts, blower blades, bearings.

Every 1200 running hours:

- Check clamping screws of connected parts.

Every 2400 running hours:

- Check the balance of blower blades.

Every 1600 running hours:

- Carry out cleaning and lubricating of bearings, change them if necessary.

Every 16 running hours:

- Carry out a visual inspection of the screw conveyor and a dust discharge (if applicable) through the inspection hole.

Every 180 running hours:

- Check the gear motor (if applicable).

Every 260 running hours:

- Check the gear motor at the dose meter (if applicable).

Every 650 running hours:

- Detach and clean filtering elements, change them if necessary.

Every 160 running hours:

- Cleaning the main pipes: open all the slide gates, start the blower and run it for several minutes (do not operate with woodworking machines when cleaning).

- Cleaning separate parts: open the slide gates of separate parts which are to be cleaned, start the blower and run it for several minutes (do not operate with woodworking machines when cleaning).

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. Filtering elements

- Fix filtering elements. Starting with the most remote hole fix them firstly on the top and then on the bottom. In order to assemble, compress the first convex of the ring and insert it in the hole. The other convex of the ring shall be left on the outside of the panel.
- 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 months.

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
Cleaning	Cleaning should be carried out so that deposits and accumulations of dust do not remain for more than one working shift.	Exterior and interior cleaning
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	♦ The system does not intake the air right after the assembly. ♦ Clogged filters	♦ Wrong rotation direction of the blower. ♦ Clean or replace filter elements
The dust goes through the filtering elements	♦ The dust goes through the filtering elements	♦ Damaged filters ♦ Expired average life ♦ The filter is out of the pockets
The dust goes out of accumulation bags/containers	♦ The dust goes out of accumulation bags/containers	♦ Damaged bag / container ♦ Wrong fixation (leakness appears)

7.3. Blower running problems and their solutions

Problem	Possible cause	Solution
Insufficient volume of moving air	♦ Wrong rotation direction ♦ Partial clogging of air pipes or air intake areas ♦ Insufficient RPM number ♦ Dusted blower blades ♦ Clogged filters	• Change phases of the motor • Clean air pipes, check slide gates • Check the voltage and the state of electrical contacts • Clean blower blades • Clean the filters more frequently
Complicated start	♦ Excessive power drain ♦ Insufficient torque of the electric motor	• Change the electric motor • Check the data about the electric motor in accordance with the technical documentation
The power drain of the blower exceeds the one indicated in technical documentation	♦ Dusted filters ♦ Adhesion of dust to blower blades ♦ Partially clogged air pipes / air intake areas	• Clean the filters more frequently • Clean blower blades • Clean air pipes and check slide gates
Excessive noise	♦ Disbalanced blower blades, displaced in relation to the body frame.	• Check the accuracy of assembly and the state of blower blades
Excessive vibration	♦ Disbalanced blower blades or other spinning parts	• Cleaning or change

7.4. Diagnostics

Conclusion	Possible cause	Solution
Reduced pressure	Flexible hoses are too long or pressed.	Change the hose, eliminate the pression, install a more powerful blower.
	There are open points, for example, the bag / container is not fixed hermetically.	Check the correct installation of the bag / container
	Wrong direction of blower blades	Contact the Supplier for further actions
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
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.

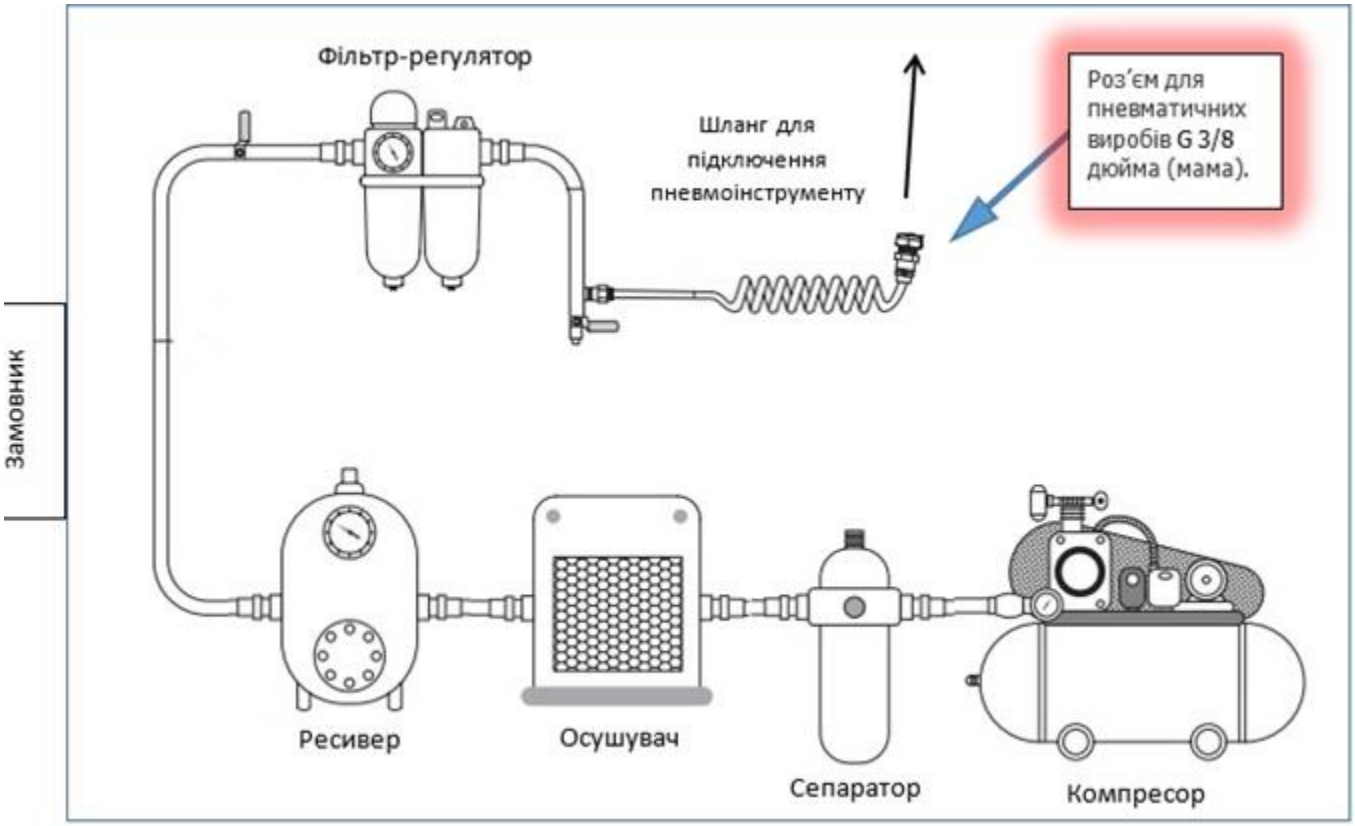
- Storage and moving (if carried out by the Buyer). The equipment must be protected from the effects caused by atmospheric factors, dust and possible fall of foreign objects on the equipment. If there is a big period of time between the date of delivery and the date of assembly, it is necessary to periodically (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.

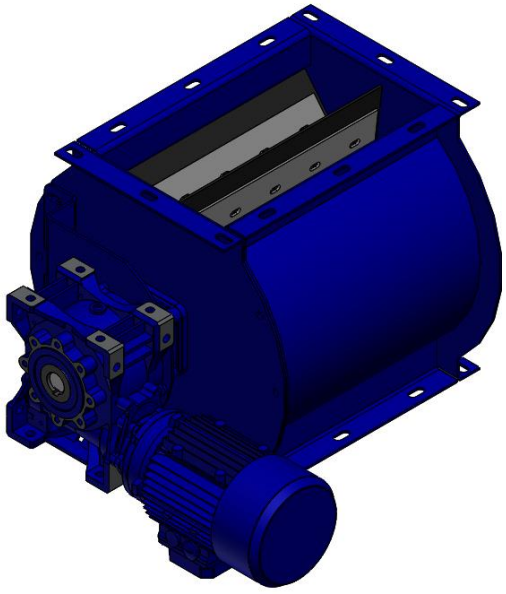
8. Marks

9. Appendixes

Appendixe №1 - Compressed air connection.



Appendixe №2 – Rotary valve RV-30



Rotary valve is a component that mechanically connects to other devices (stand alone or as part of a system). The installer is responsible for ensuring during operation of the device that there is a certain level of protection against the danger of contact with moving parts and that people or things are not within dangerously close proximity to the device. Immediately inform the maintenance personnel that the device is not working properly.

Maintenance

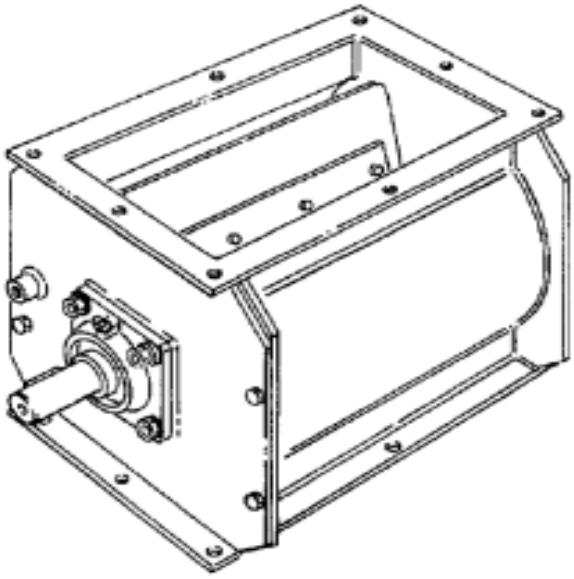
Never allow the device to be operated without proper authorization. All maintenance operations are carried out on the device when it is stopped and disconnected from the power supply. Never place limbs or fingers next to moving parts (rotor, shaft, motor) as they may be injured or cut off. Check periodically to ensure that the valve operates correctly in accordance with the characteristics, without abnormal noise or vibration. Make sure that the material is moving in the correct direction. The frequency of inspections and maintenance depends on the efficiency of the operating conditions (loading, number of starts, etc.) and the type of product that is passed. The RV valves have 2 supports which are placed together and 2 felt seals. The supports have a ball oiler and must be regularly lubricated. The felt seals must be replaced after every approximately 5000 operating hours. Check the rubber blades periodically for wear and tear. The valve gasket will deteriorate if the blades are damaged. Proceed as follows to replace them: remove the valve from the system, if possible, and place it on the work surface. Remove the drive module if it is installed with specialized tools. Unscrew the locking bolts and pull out the blade. Repeat this procedure until the last blade is removed. Install the new blades in the same way. We recommend that you install original spare parts.

Valve assembly instructions

Spare parts list:
1. Case
2. Cover
3. Rotor
4. Plate (mounting plate)
5. Rubber seal
6. Shaft
7. Support
8. Sealer

Spare parts list: Table 12
1. Gear plant module
2. Motor
11. Bracket
12. Hub
13. Hub

1



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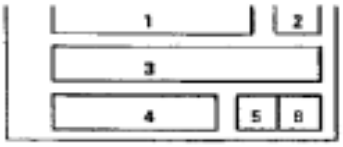

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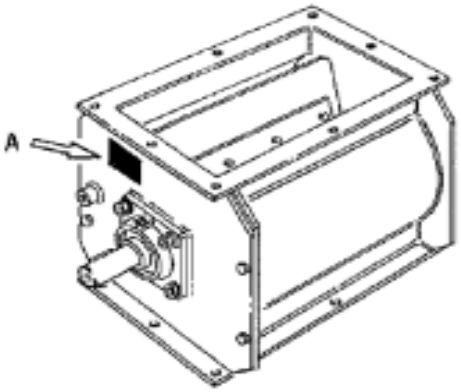

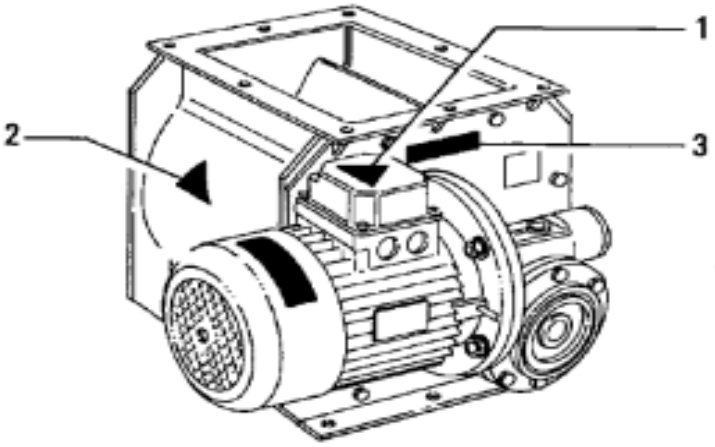

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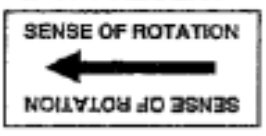
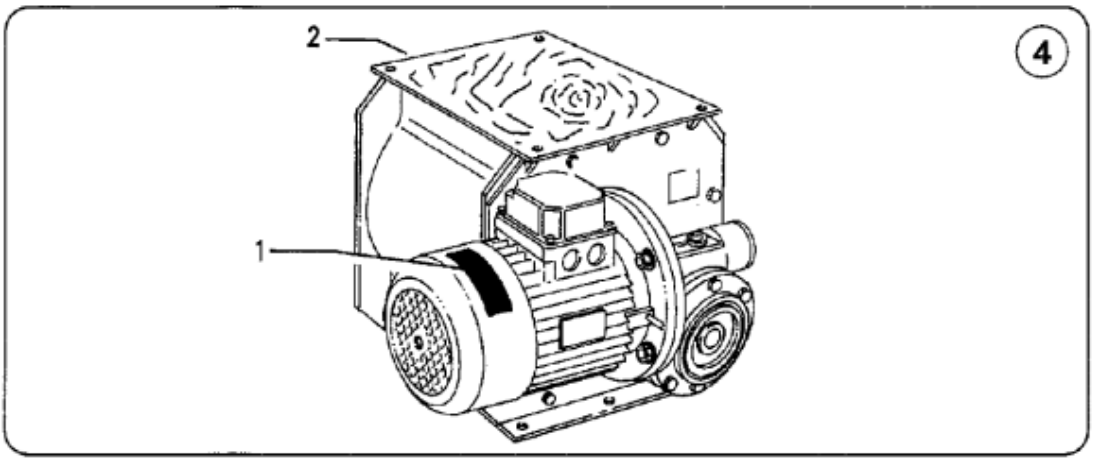
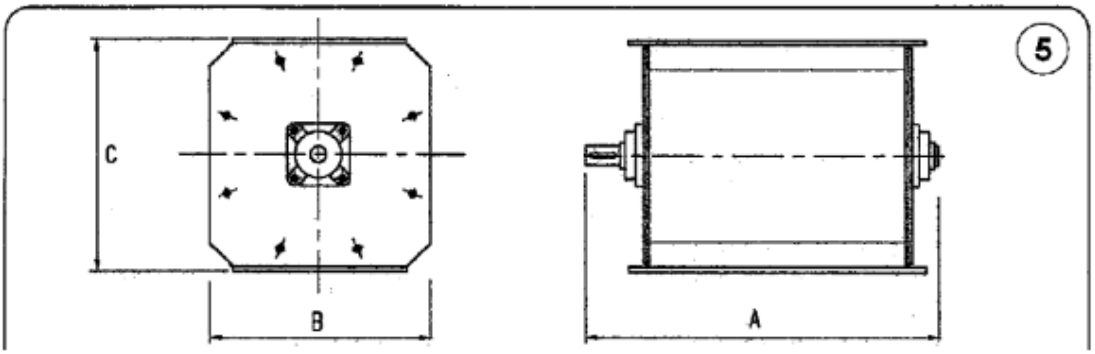
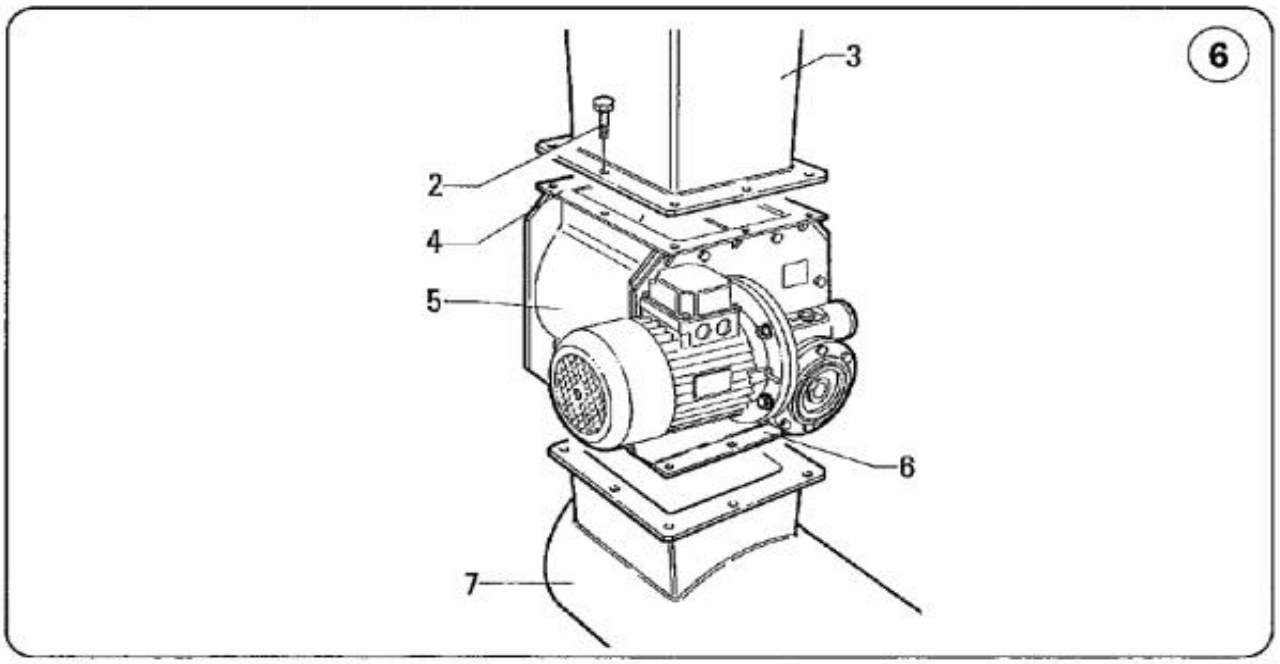
IF IT PRESENT







Тип	Вместе с валом (кг)	A (мм)	B (мм)	C (мм)
RV-30	55	525	400	360



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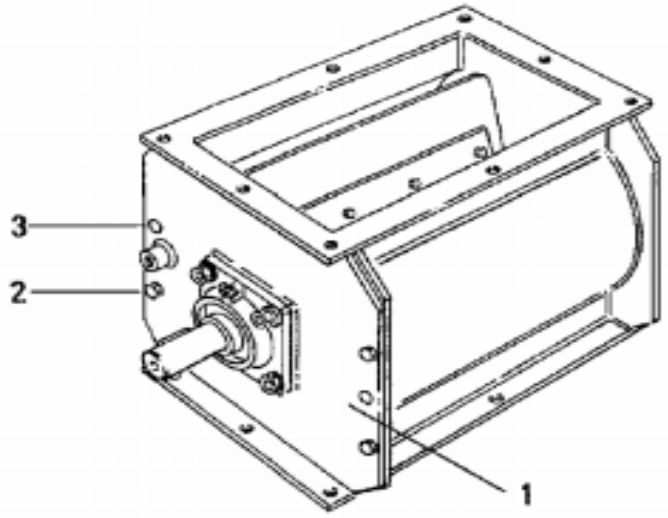
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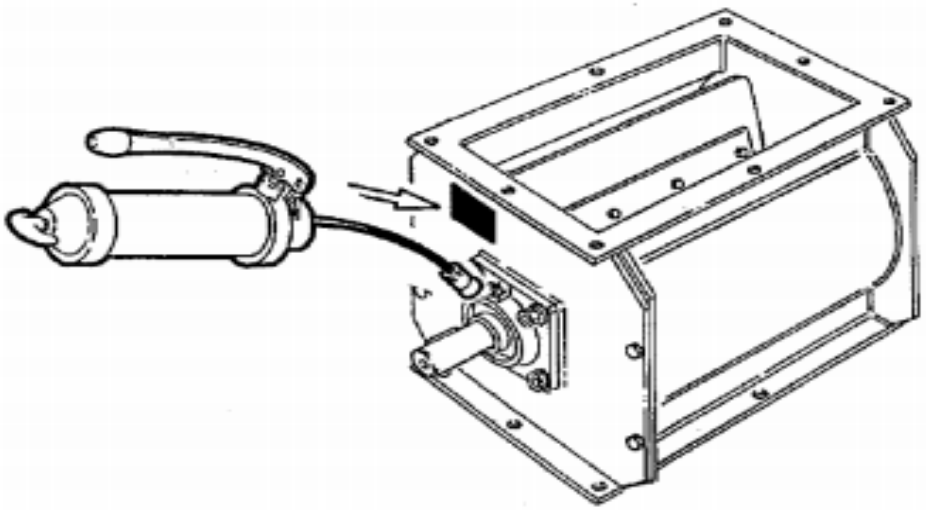

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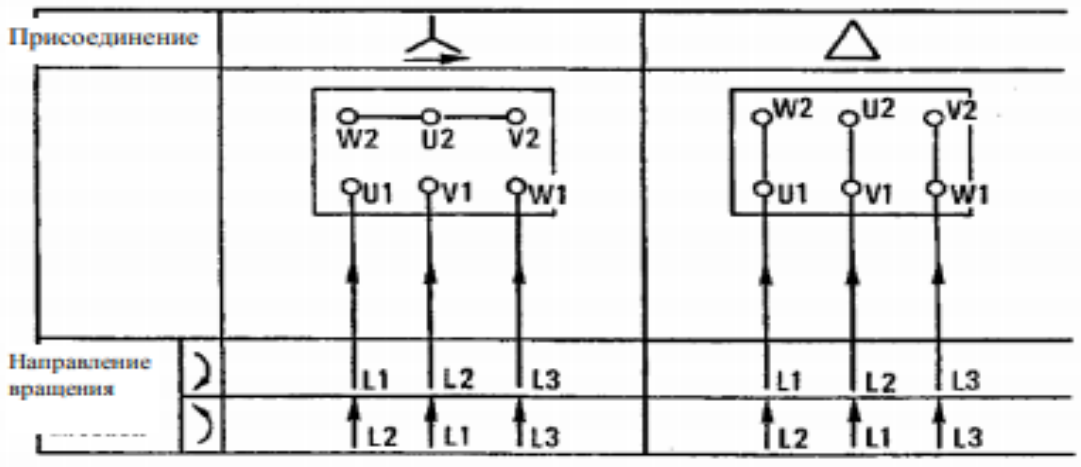
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U1 V1 W1
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Направление вращения
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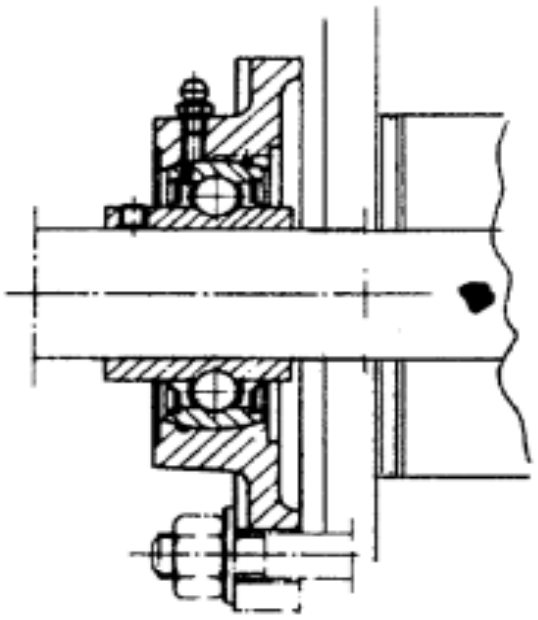
L1 L2 L3
L2 L1 L3

10



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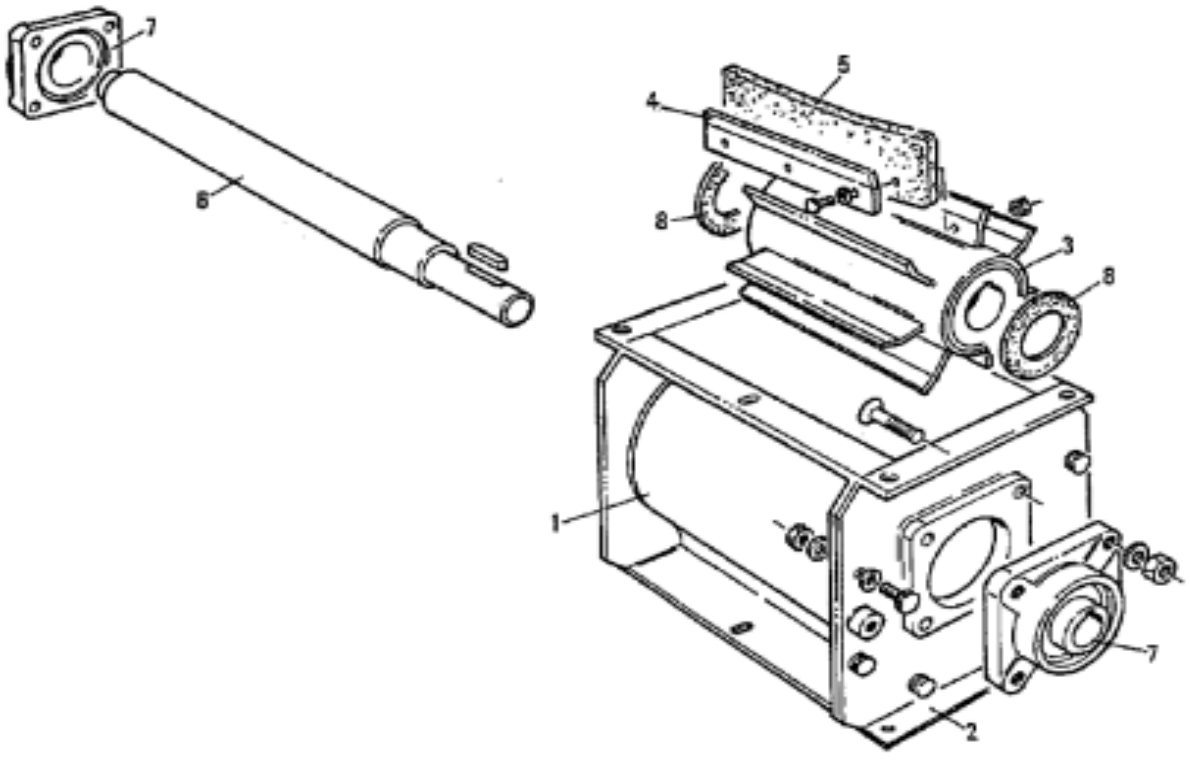

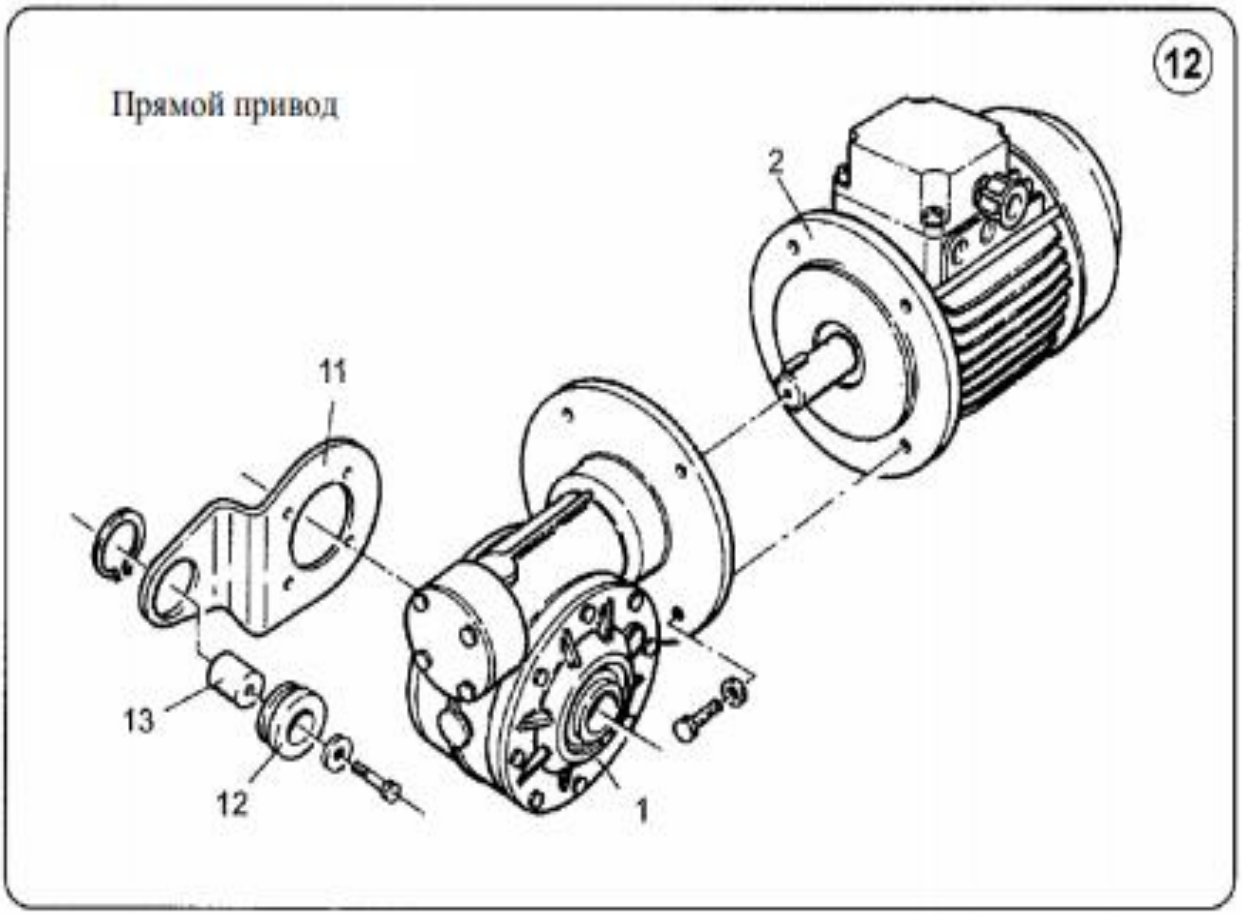
12
Прямой привод
2
11
13
12
1