

AZUD HELIX AUTOMATIC FT201 AA DLP



+ INFO

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System of symbols used in this manual:

In the reading of this manual you will find some signs used as information points to warn and to identify risks. This is the format and content of these messages:



It Indicates instructions and warnings which failure to follow could cause damages to people, the Equipment and its surroundings.

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1. Introduction.

Thank you for trusting in **AZUD HELIX AUTOMATIC** equipments to solve your filtration requirements. Please read carefully this manual and you will find answer to most of your questions.

IF YOU HAVE ANY QUESTION OR NEED ADDITIONAL INFORMATION; PLEASE CONTACT US IN +34 968808402 OR azud@azud.com

All the equipments manufactured in Sistema AZUD are subject to strict quality control tests and are manufactured under a productive process which complies with the requirements of the standard **ISO 9001/2000**.

Sistema AZUD is also committed with the environment, and is certified under the Environmental Management System of the standard **ISO 14001**.



This manual includes instructions and warnings to a correct installation, operation and maintenance of the Equipment.

2. Features of the Filtration System.

2.1. Exclusive Use of the filtration Equipment.



Sistema AZUD filtration equipments have been designed to exclusively filter water, according to the Operational Conditions indicated in the Technical data and the Industrial label of the Equipment. In any case to the filtration of dangerous liquids (understood as such the specific in the charter 2 of article 2 of Directive 67/548/CEE, of 27th of June of 1967), or liquids for food use.

**CLASSIFICATION ACCORDING TO THE DIRECTIVE OF PRESSURE
EQUIPMENTS.**

PED 2014/68/EU – Fluid Group 2

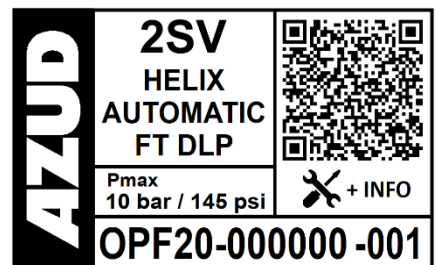
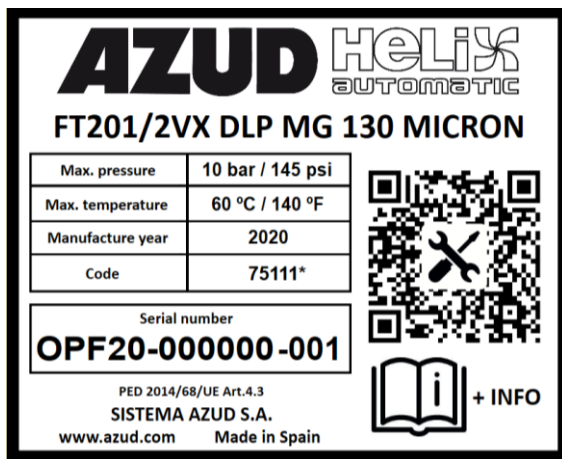
2.2. Identification of the product.

In AZUD each filtration equipment is identified by an industrial label, placed in one of the main manifolds, with the serial number. With this number the factory can always identify the equipment.

The modification or elimination of this label cancels any warranty; and impedes the identification of the Equipment.

The industrial label indicates: manufacturer, address, model, year of manufacturing, serial number, max. Pressure, max. Temperature and conformity with the Directive of Pressure Equipments **PED 2014/68/EU**.

The label includes QR code to access the technical documentation of the product such as technical sheets, user manual, spare parts and/or maintenance and commissioning instructions.



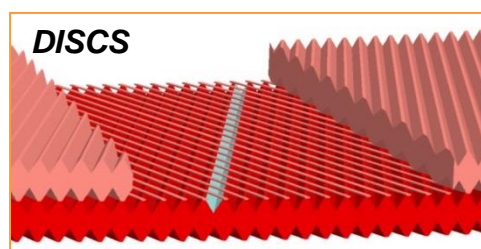
The filters of the equipment, are identified with a label in which is indicated the model, year of manufacturing, serial number and max pressure.

2.3. Operation Description.

AZUD HELIX AUTOMATIC consists of a filtering element which comprises grooved discs, that allow the retention of particles of a size bigger than the required filtration grade. The Equipment combines the advantages of the disc filters with those of the helical-centrifugal effects of the helix.

AZUD grooved discs combine **on-surface filtration and in-depth filtration** to achieve the **maximum precision and safety in the filtration**.

The particles are retained through the channel of the discs.



AZUD Water Filtration Solutions

TECNOLOGY

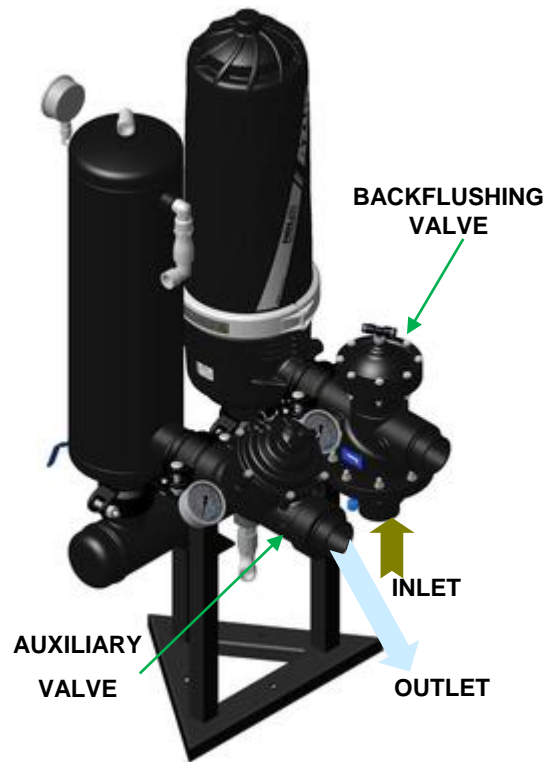
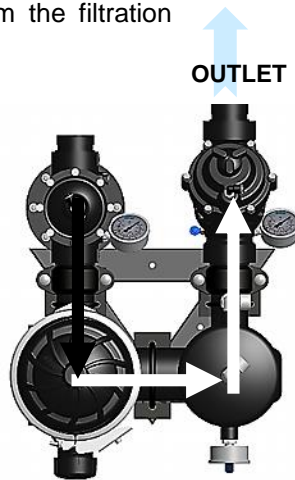
The system carries out two independent phases in each filtering unit but simultaneous in the filtration system in precise moments. This is called **FILTRATION PHASE** and **BACKFLUSHING PHASE**

FILTRACIÓN STAGE

In the filtration process, water is carried from the inlet manifold through the backflushing valves, to the interior of the filter which form the filtration system .

Once the water comes in the filter, the only way to follow are the channel of discs.

The outlet manifold is the responsible to collect the filtered water and carry it out to the exterior of the same.

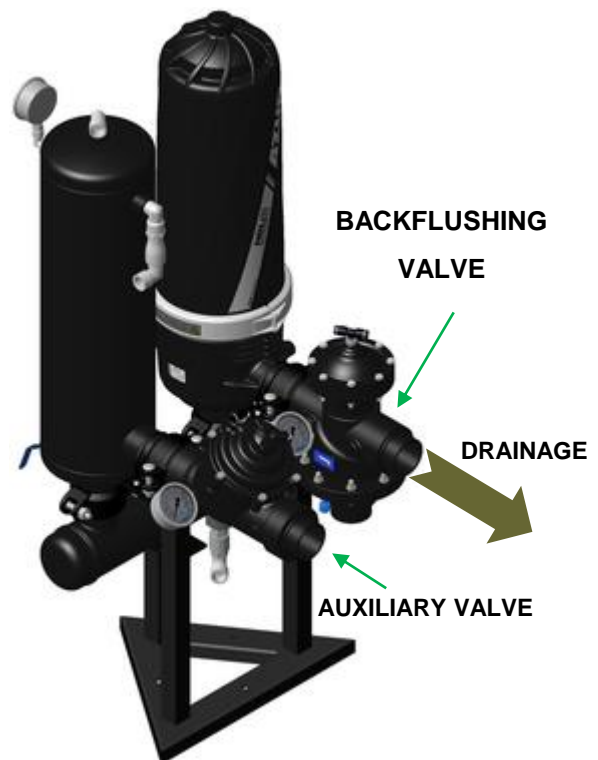


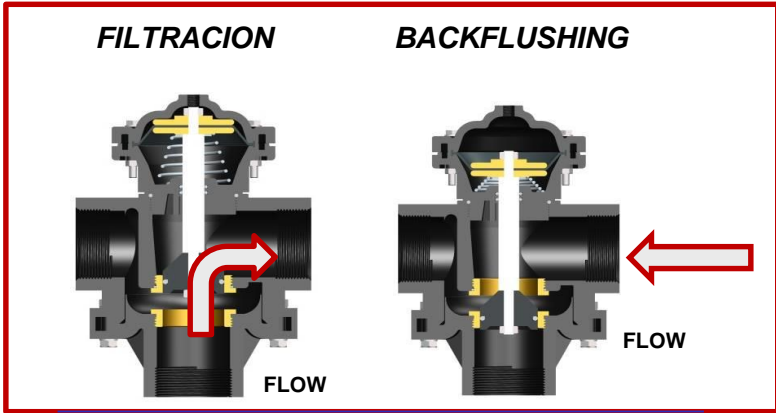
BACKFLUSHING PHASE

The start of the backflushing process takes place when the Control Unit activates the backflushing cycle under one of the four possible orders: **Differential of pressure, time frequency between backflushings** or **manually on the keyboard** or by **external signal**.

The programmer of the Control Unit, closes the contact which supplies NC solenoid charge and which is responsible for the activation of the first station that will carry out the backflushing. The solenoid converts the electric signal in a pneumatic signal responsible for the feeding of the backflushing valve chamber and auxiliary, communicating the filtered water outlet with the drainage.

Through the feeding of the three-way valve chamber, the inlet of water to the filter is closed, communicating the interior of the filter with the drainage manifold, starting a backflush.



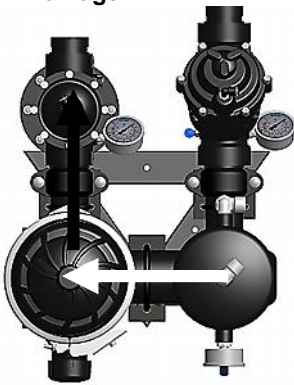


VALVULA 90°

A moment after the following solenoid introduces the air in the filtered water deposit and inside the filtering element.

This mixture of water –air provokes a hydraulic – pneumatic force which is used to overcome the pressure made by the spring over the stack of discs, generating the decompression of the same due to the rising of the piston.

Drainage



All that available hydraulic power is used to overcome the pressure exerted by the spring on the discs stack generating in this way its own decompression due to the piston displacement (raising).

The release of discs makes possible these can freely spin due to the tangential projection of the water coming from the feeder bars which at the same time are used as structural support of the stack of discs.

The correct distribution of the holes in the bars, together with the studied design of the same, project water under pressure which tangentially falls into the discs, generating its rotation and vibration of the same and consequentially the complete elimination of the retained solids through the backflushing valve. These are carried to the outside by the drainage manifold.

Once the station has completed the backflushing process, it is repeated sequentially until it completes the totality of stations which form the filtration equipment.

The end of the backflushing coincides with the closure of the drainage outlet and the opening of the inlet manifold on the last station which forms the filtration equipment. In this way the filtration initial conditions are re-established and also the availability of the totality of filters to carry out the filtration function.



PISTON CAP WITH SPRING

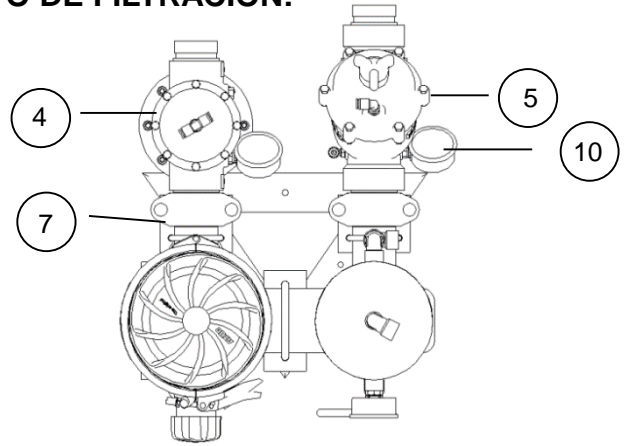
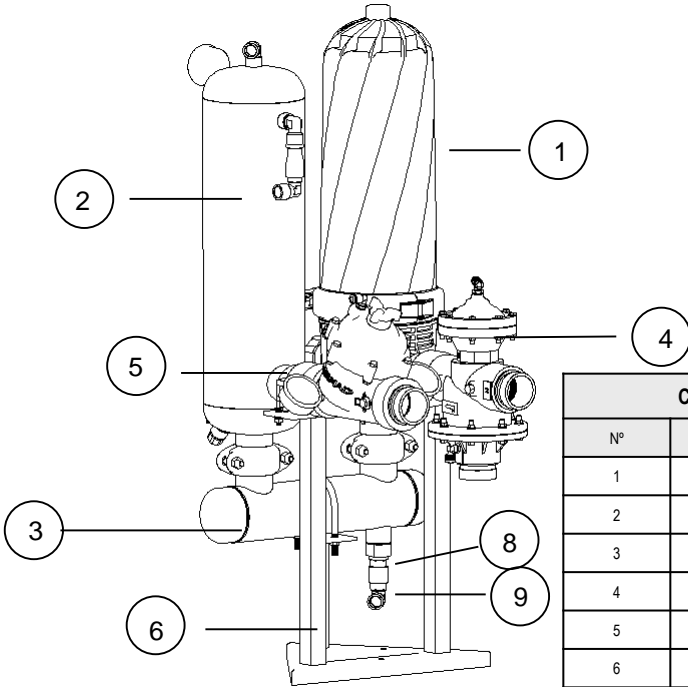


LOWER SIDE OF THE FILTERING ELEMENT

AZUD Water Filtration Solutions

2.4. Componentes y repuestos EQUIPO DE FILTRACION:

AZUD HELIX AUTOMATIC FT201 AA



COMPONENTS AND SPARTE AZUD HELIX AUTOMATIC EQUIPMENT

Nº	COCE	DESCRIPTION	MATERIAL
1	-----	AZUD HELIX AUTOMATIC 2'S FILTER	--
2	-----	AUXILIARY TANK	
3	-----	MANIFOLD	HDPE
4	-----	3 WAYS HYDRAULIC VALVE 2"	
5	-----	AUXILIARY VALVE	
6	-----	SUPPORTS	
7	8660121D	GROOVED COUPLING 2"	
8	-----	AIR INJECTOR	
9	-----	RETENTION VALVE	
10	-----	MANOMETER	

COMPONENTS AND SPARES AZUD HELIX AUTOMATIC FILTER

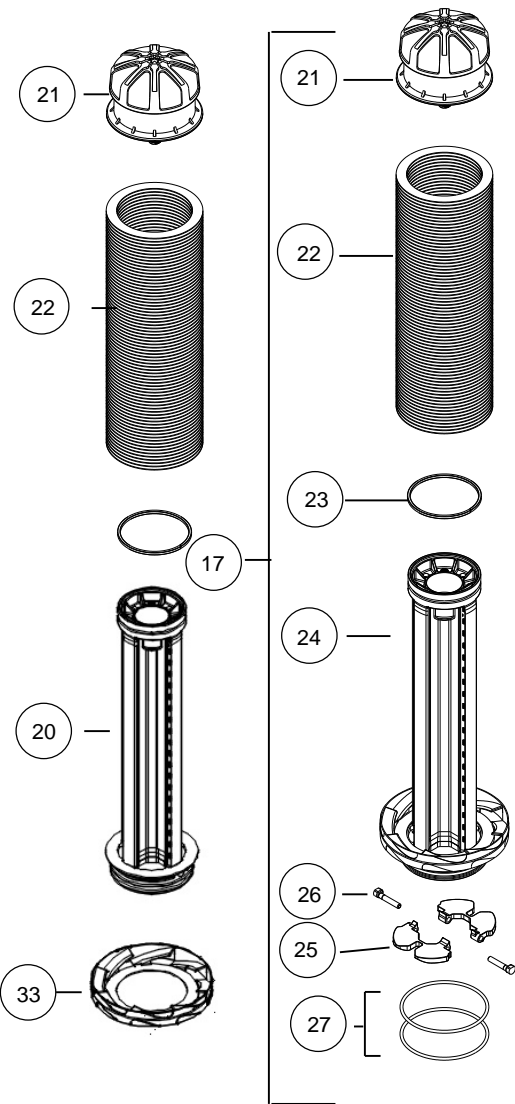
Nº	CODE	DESCRIPTION	MATERIAL	un
16	17RXP010	PLASTIC LID 3"	RPA	1
17	-	FILTERING ELEMENT AZUD HELIX AUTOMATIC	-	1
18	70RX0001	CLAMP SAFETY AZUD HELIX AUTOMATIC	A. INOX.	1
19	17RXP012	SEALING GASKET BASE	NBR	1
20	18R60003	BASE 2NV	RPA	
35	17RXP013	BASE CAP	RPA	
36	-	O-RING CAP	RPA	

AZUD HELIX AUTOMATIC

NUMBER	CODE	DESCRIPTION	un
17	18CN30W6	AUTOMATIC CARTRIDGE DEP 3.0 S-DISC 130 MICRON	1
	18CN30W8	AUTOMATIC CARTRIDGE DEP 3.0 S-DISC 100 MICRON	1
	18CN30W2	AUTOMATIC CARTRIDGE DEP 3.0 S-DISC 50 MICRON	1
	18CN30W1	AUTOMATIC CARTRIDGE DEP 3.0 S-DISC 20 MICRON	1
	18CN30W4	AUTOMATIC CARTRIDGE DEP 3.0 S-DISC 10 MICRON	1
	18CN30W3	AUTOMATIC CARTRIDGE DEP 3.0 S-DISC 5 MICRON	1
17	18CN30X5	AUTOMATIC CARTRIDGE DEP 3.0 400 MICRON	1
	18CN30X0	AUTOMATIC CARTRIDGE DEP 3.0 200 MICRON	1
	18CN30X6	AUTOMATIC CARTRIDGE DEP 3.0 130 MICRON	1
	18CN30X8	AUTOMATIC CARTRIDGE DEP 3.0 100 MICRON	1

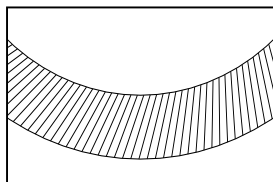
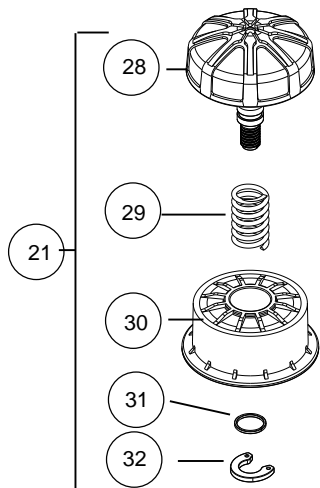
Please indicate the serial number of the equipment when requesting spares.

AZUD HELIX AUTOMATIC FILTERING ELEMENT

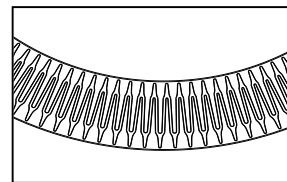


SPARE PARTS KITS			
NUMBER	CODE	DESCRIPTION	un
23-27x2-31-32	18R60116	O-RINGS KIT AUTOMATIC FILTER 3.0	1
23-31-32	18R60117	PISTON SET OF O-RINGS AUTOMATIC FILTER 3.0	1
23-27x2-29-31-32	18R60118	MAINTENANCE KIT AUTOMATIC FILTER 3.0	1
20	18R60119	FRAME AUTOMATIC FILTER DEP 3.0	1
25x2-26x2	18R60120	CHECK VALVE AUTOMATIC FILTER 3.0	1
26	-----	STEM CHECK VALVE	1
27	18R60026	O RING 103X4	2
28	-----	A PISTON COMPONENT	1
29	-----	SPRING	1
30	-----	B PISTON COMPONENT	1
31	-----	O RING 13X2	2
32	-----	CLIP	1
33	17RXP020	HELICAL ELEMENT	1

AZUD HELIX AUTOMATIC DISC KIT			
NÚMERO	CÓDIGO	DESCRIPCIÓN	un
22	18R60033	S-DISC KIT AUTOMATIC FILTER 130 MICRON	1
	18R60039	S-DISC KIT AUTOMATIC FILTER 100 MICRON	1
	18R60034	S-DISC KIT AUTOMATIC FILTER 50 MICRON	1
	18R60035	S-DISC KIT AUTOMATIC FILTER 20 MICRON	1
	18R60038	S-DISC KIT AUTOMATIC FILTER 10 MICRON	1
	18R60036	S-DISC KIT AUTOMATIC FILTER 5 MICRON	1
22	18R60040	DISC KIT AUTOMATIC FILTER 400 MICRON	1
	18R60012	DISC KIT AUTOMATIC FILTER 200 MICRON	1
	18R60011	DISC KIT AUTOMATIC FILTER 130 MICRON	1
	18R60010	DISC KIT AUTOMATIC FILTER 100 MICRON	1



**MG
DISC**



**WS
DISC**

*: OPTION

RPA: POLYAMIDE REINFORCED WITH GLASS FIBER

PP: POLYPROPYLENE

NBR: NITRIL RUBBER

RPP: REINFORCE POLYPROPYLENE WITH GLASS FIBER

PE: POLYETHYLENE

A, INOX.: STAINLESS STEEL

Please indicate the serial number of the equipment when requesting spares.

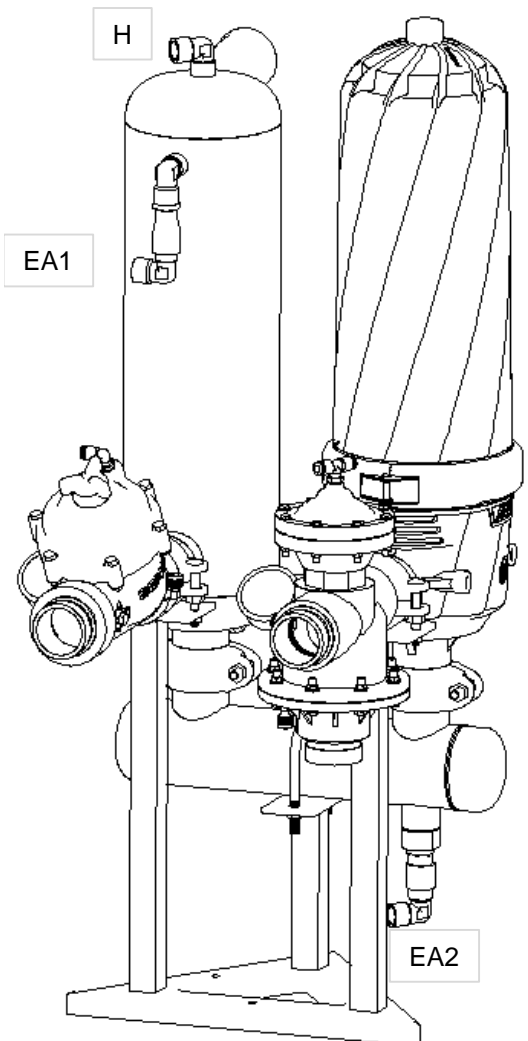
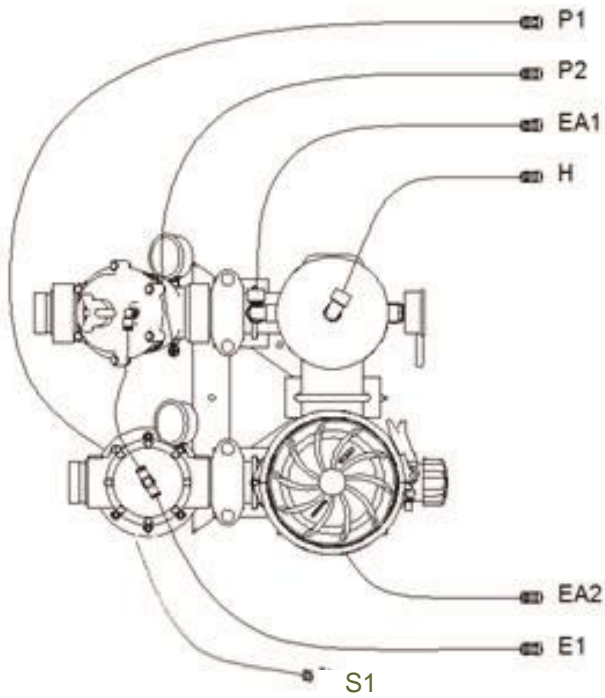
PLASTIC VALVE BERMAD



Cod: 18CE1008

2.5 Backflushing Grooved valve 2"x2"x2".

The reference of the backflushing valve will be different according the manufacturer AZUD supplied in your filtration equipment.



3. Technical Data

3.1 AZUD HELIX AUTOMATIC 201 AA General features and requirements.

		2" SUPER							
		400 micron	200 micron	130 micron	100 micron	50 micron	20 micron	10 micron	5 micron
QUALITY OF WATER	GOOD WATER	28 m ³ /h 123,27 gpm	27 m ³ /h 118,87 gpm	26 m ³ /h 114,47 gpm	24 m ³ /h 105,66 gpm	14 m ³ /h 61,63 gpm	8 m ³ /h 35,22 gpm	6 m ³ /h 26,41 gpm	5 m ³ /h 22,01 gpm
	ERAGE WATER	26 m ³ /h 114,47 gpm	25 m ³ /h 110,07 gpm	24 m ³ /h 105,66 gpm	22 m ³ /h 96,86 gpm	13 m ³ /h 57,23 gpm	7 m ³ /h 30,81 gpm	5 m ³ /h 22,01 gpm	4 m ³ /h 17,61 gpm
	POOR WATER	24 m ³ /h 105,66 gpm	23 m ³ /h 101,26 gpm	22 m ³ /h 96,86 gpm	20 m ³ /h 88,05 gpm	12 m ³ /h 52,83 gpm	6 m ³ /h 26,41 gpm	4 m ³ /h 17,61 gpm	3 m ³ /h 13,20 gpm
	Y POOR WATER	22 m ³ /h 96,86 gpm	21 m ³ /h 92,45 gpm	20 m ³ /h 88,05 gpm	18 m ³ /h 79,25 gpm	11 m ³ /h 48,43 gpm	5 m ³ /h 22,01 gpm	3 m ³ /h 13,20 gpm	2 m ³ /h 8,80 gpm

Maximum working pressure	10 bar 145 psi
Maximum Temperature	60°C 140°F
pH	4-11

Backflushing Volume per filter 10 l / 2.64 gallons

Minimum pressure 0.8 bar / 11.60 psi

Data with 0 bar pressure in the drainage manifold.

The differential pressure of the filter never must be higher than 0.2-0.3 bar over the value of the filter has when it is clean

- To the correct working of the equipment it should have a minimum of 6 bar to 1200 l/min in the backflushing process.
- The maximum pressure of air intake should not surpass the 7 bar.



To adjust the inlet pressure of the air intake it should be taken into account the inlet pressure of water in the filtration equipment. The maximum pressure of air intake should be equal to the maximum inlet pressure of water to the filtration equipment plus 1 bar.

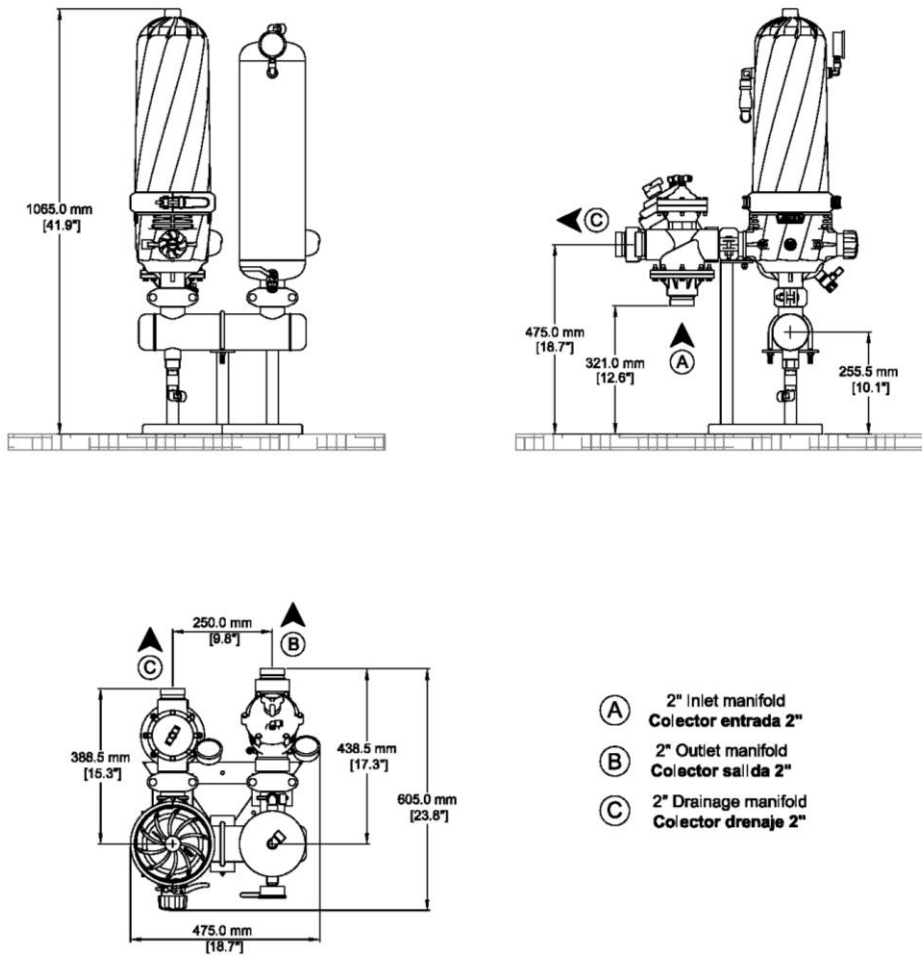
$$\text{Air intake } P = \text{inlet water } P + 1 \text{ bar}$$

It is not necessary the use of lubrication in the air treatment of the pneumatic command. It can even damage some components.

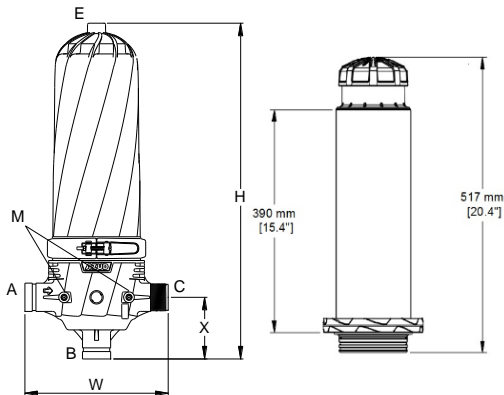
The instructions and warnings should be taken into account in order to obtain a correct installation, working and post-working of the Equipment.

Not obeying the instructions or warning can cause damages or failure in the working of the equipment.

3.2.- Dimensions of AZUD HELIX AUTOMATIC Equipment.

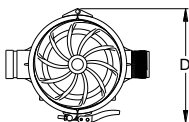


3.3.- General Characteristic AZUD HELIX AUTOMATIC Filter.



The failure to obey the instructions and warnings could cause damage to people, the equipment and the surrounding area.

**CLASSIFICATION ACCORDING TO THE DIRECTIVE OF PRESSURIZED EQUIPMENTS
PED 2014/68/EU – Fluid Group 2**



Connections			Dimensions (mm)						
A	B	C	E	M	H	W	X	D	
2" VIC	2" VIC	2" BSP	3/4" BSP	1/4" BSP	721	309	133	245	

4. Security Information

Sistema AZUD filtration systems have been designed for the filtration of water following the Operation Conditions indicated in the Technical Data and in the industrial label of the Equipment.

*Sistema AZUD filtration systems are **NOT** designed for the filtration of hazardous liquids (such as those specified in section 2 of article 2 of the Executive Committee 67/548/CEE, 27th June 1967) or liquids for food use.*

This is not an standard Equipment. It has been designed and manufactured to satisfy the requirements communicated to the manufacturer by the customer. Any additional requirement or change in its use could cause damages not covered by the warranty.

Preserve this manual so that the user of the Equipment could familiarize with it. Below there are some general instructions for a safe operation of the Equipment. These instructions are not a close list, the user must adopt as many security measures as necessary to guarantee his security. In this way, this safety information does not substitute the accident emergency measures which should be adopted.



- *Follow the instructions described in this manual.*
- *Do not open the filter clamp when the Equipment is pressurized, it could cause a deep damage on people, the Equipment and the surrounding area.*
- *Do use the adequate personal protection (adequate clothes, protective glasses and other elements of personal protection...).*
- *Determine the chemical compatibility between the Equipment materials and the characteristics of the water to be filtered.*
- *Before starting the Equipment, make sure that all the covers are closed properly and the connections are in good conditions.*
- *Make sure that the Equipment is depressurized (through the reading of the gauges of the filters inlets and the outlet manifold gauge) before coming into contact the interior of the Equipment with the atmosphere (before opening any filter, removing any coupling, etc)*
- *Do not forget to lock the safety lock of the clamp. It will avoid its accidental opening.*
- *Do not exceed the maximum and operation intervals (pressure, temperature, pH, and flow rate) indicated in the Technical Data.*
- *In freezing risks areas, do empty the filtration system to avoid damages.*

The Warnings and Safety Information are for guidance only, just carry them out taking as many security measures and prevention of accidents as possible to guarantee your security.

The inappropriate use of the Equipment may cause damages on people, the property and the environment. A bad use or modification in the Equipment cancels its warranty

5. Installation Instructions.

- *Installation should be made by QUALIFIED STAFF.*
- *The location of the Equipment should be made on solid ground.*
- You should take into account the weight of the Equipment when you choose the ribbons or synthetic slings. See the Technical Data section.*
- *Make sure that the measures of the ribbons of the raising system are correct so that the equipment is in an horizontal position when raised.*
- Secure the Equipment to the raising system to avoid accidents.*
- Follow the operation and safety instructions of the Manual*



AZUD HELIX AUTOMATIC equipment is delivered already assembled on a pallet. In the installation the steps to follow reduced to:

- 1- Transport the filtration equipment with the pallet with a lift truck or similar until its final emplacement.
- 2- Unpack the equipment carefully and check there are not damages in the same.
- 3- Confirm all the specified parameters are agreed with the ones of the equipment.

Fix the Equipment to the ground: If you want to fix it, you can do it with the appropriate lag screw according to the kind of ground. The lag screw should be placed in the holes of the level regulators.

5.2. Connection to the installation.

The connections are grooved. You should use the necessary and standard elements to connect the Equipment with the rest of the installation.

In case of doubts please contact us.

5.3. Connection of the Equipment to the Control Unit through the union of the homologous microtubes.

The homologous union microtubes are labelled according to the following nomenclature:

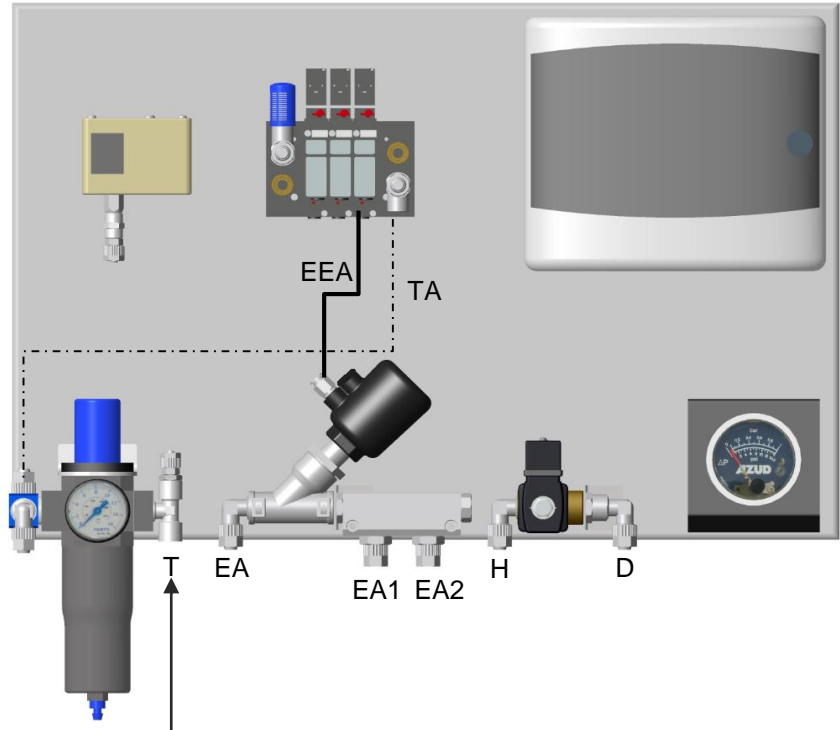
COMMAND	DESCRIPTION: Use and Connection
T	PRESSURE INTAKE: To the feeding of the whole circuit of pneumatic command. It should correspond with the place of highest pressure of the whole installation. It takes the air from its compressor.
TA	AUXILIARY PRESSURE INTAKE: To the feeding of the pneumatic command circuit, which allows the manoeuvre of 3/8" valves and relay.
H	AUXILIARY ESCAPE: Pneumatic command which allows the exit of air of the auxiliary cleaning deposit to the filling of water.
P1	Pressure intake in inlet manifold, to be connected to the differential pressure gauge*.
P2	Pressure intake in the outlet manifold, to be connected to the differential pressure gauge*.
EA	Auxiliary Station: Pneumatic command in charge of the air feeding to the equipment when the backflushing process and the drainage of the same is activated in the instant the activation of the electrovalve stops.
EA1	Auxiliary Station 1: Pneumatic command in charge of the air feeding to the auxiliary deposit.
EA2	Auxiliary Station 2: Pneumatic command in charge of the air feeding to the filtering element through one injector.
EEA	Feeding pneumatic valve: Pneumatic control manager feeding air into the chamber of the pneumatic angle seat valve
En	Station 1: Pneumatic command in charge of the hydraulic relay feeding and/or chamber of three ways to the activation of backflushing station* or filter n.1, and the drainage of the same in the instant the activation of electrovalve n°1 stops.
E3 ... En
Sn	ESCAPE: Command to the movement of the valve at the instant in which the activation of the station* or corresponding filter.

* GLOSSARY	
STATION	We understand by station each of the groups of filters which backflush altogether in the same signal of the Control Unit. An station can be formed by one or several filters.
PRESSURE DIFFERENTIAL GAUGE	It indicates in the graduated sphere the differential pressure value between intake P1 and P2 as well as the stipulated value through which it is established the contact for the activation of a backflushing.

5.4 Pneumatic connection between the Control Unit and the pressurized air equipment.

Connect the intake source of air to the control Unit. To make this connection we leave in the pressure regulator a 12 elbow of quick coupling.

INTAKE OF AIR "T" TO THE CONTROL UNIT



This control unit has a needle valve to adjust the inlet pressure of the two stations grouping. This device is adjusted from the factory.

- **To the correct working of the equipment it should have a minimum of 6 bar to 1200 l/min in the backflushing process.**
- **The maximum pressure of air intake should not surpass the 7 bar.**



To adjust the inlet pressure of the air intake it should be taken into account the inlet pressure of water in the filtration equipment. The maximum pressure of air intake should be equal to the maximum inlet pressure of water to the filtration equipment plus 1 bar.

$$\text{Air intake } P = \text{inlet water } P + 1\text{bar}$$

It is not necessary the use of lubrication in the air treatment of the pneumatic command. It can even damage some components.

The instructions and warnings should be taken into account in order to obtain a correct installation, working and post-working of the Equipment.

Not obeying the instructions or warning can cause damages or failure in the working of the equipment.

6. Operation Instructions

6.1- Start-up AZUD HELIX AUTOMATIC.



- Do not operate out of the working Conditions.
- Be sure the auxiliary Filter key is open before starting-up the Equipment.

Instructions to the operation of the equipment:

BEFORE THE STARTING-UP

- Make sure that the flow rate, pressure, temperature and pH will be covered by the Equipment specifications (indicated in the Equipment technical data) when starting it.
- Make sure that all the filters are properly closed and there are no leakages.
- Make sure that the auxiliary filter key is opened.

•START-UP

- Connect the pumping system for the water inlet
- Make sure that the **Operation Conditions** (pressure, temperature, flow rate and pH) are on the specifications.
- Watch the Equipment head loss
- Follow the instructions of the Equipment's Control Unit Manual.

6.2- Opening and closure of the filters.



Pressure Equipment: Be sure the filter is depressurized before opening it.

1. Take away the clamp.

2. Take away the lid of the filter

<p>1- Turn the screw and remove the anti-opening device (if you have the same)</p> <p>2- Rise-up the lever and take out the bolt.</p>	
<p>1. Check the O-ring is clean</p>	<p>2. Correctly close the filter If leakages, adjust the closure of the clamp.</p> <p>3. Adjust the closure with the screw</p>



- **Pressure equipment: Make sure that the filter is depressurized before opening it.**
- **For the Equipment's operation, use the adequate personal protection (adequate clothes, protective glasses, gloves and other elements of personal protection ...).**
- **Do not forget to adjust the safety lock of the clamp. It will avoid its accidental opening.**
- **It is recommended the installation of an upstream and downstream valve to isolate the system during maintenance operations.**

7. Maintenance Instructions.



- **Be sure the Equipment is depressurized before making any operation which expose in contact the interior of the equipment with the atmosphere.**
- **The maintenance labours should be made by qualified staff.**

Maintenance Plan of the Equipment. The period between revisions depends on the operation conditions, characteristics of water to be filtered, operation hours, number of backflushings, recuperation of the differential pressure after the backflushings.... AZUD recommends three months between the different revisions of components which imply the disassembly of the filtering element. **This period should be determined by the user** according to the particular characteristics of his installation.

For the identification of the components check section 2.5 of the manual

7.1 Maintenance Summary Box.

DAILY ACTIONS
1. Visual inspection of the Equipment
2. Checking there are not leakages in the Equipment
3. Checking of the Operation Conditions (pressure, temperature, flow rate, pH).
4. Vigilance of the Equipment head loss (P1* - P2*)
PERIODICAL ACTIONS
1. Checking of the base o-ring
2. Checking of the filters cleaning state. If they are too dirty, clean the discs manually.
3. Manual activation of a backflush to check that the backflushing phases of all the stations are carried out correctly.
4. Gaskets checking
5. Checking the elements of the piston.
6. Checking of 3/4" auxiliary Filter
7. Checking 1/4" intake filters.
8. Maintenance of grooved couplings.

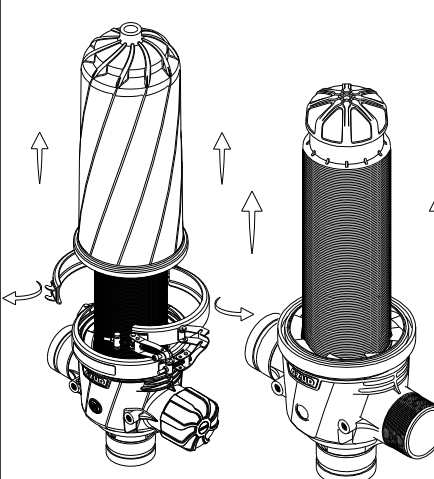
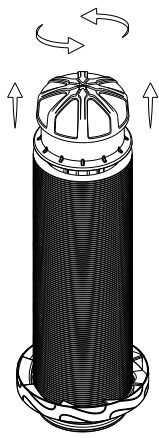
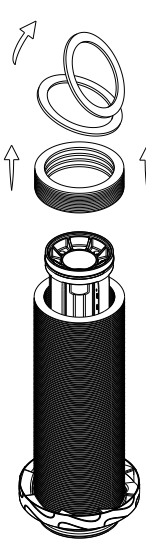
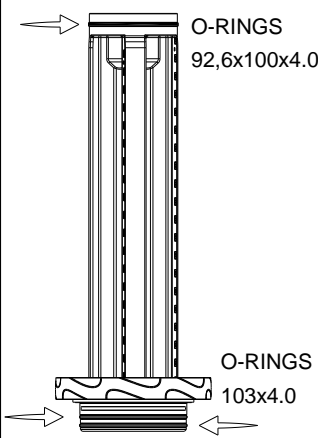
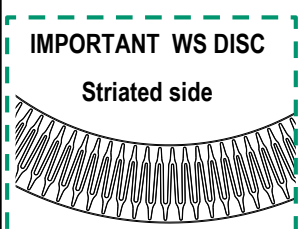
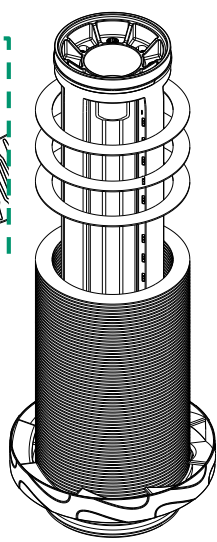
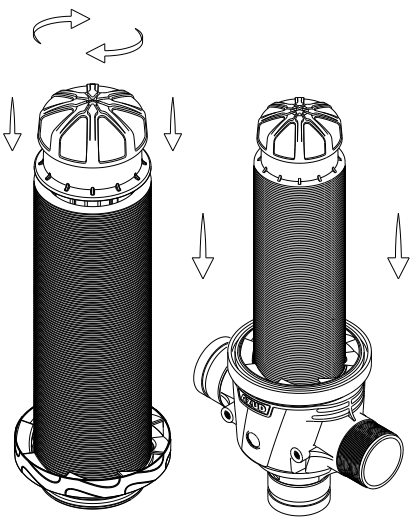
* : P1 and P2 are the pressure in the inlet and outlet manifold. Their difference is the head loss of the Equipment.



- **The checking period should be determined by the user according to the particular characteristics of its installation**

7.2. General Revision of the Equipment.

The **maintenance plan of the filter** depends on the working conditions of each installation which should be determined by each user. The steps of the maintenance plan are:

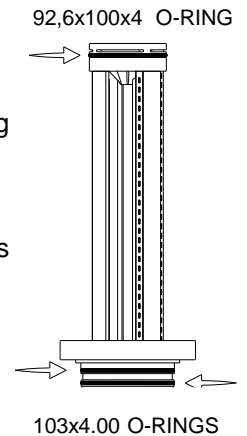
<p>1. Open the clamp and take away the lid</p>  <p>2. Remove the filtering element carefully.</p>	<p>3. Turn the piston until it is released; take it away.</p> 	<p>4. Clean only the discs using clean water or an acid dissolution Do not mixture discs from different filters.</p> <p>5. Take away the discs.</p> 
<p>6. Lubricate the filtering element's o-rings, with neutral Vaseline if possible.</p>  <p>O-RINGS 92,6x100x4.0</p> <p>O-RINGS 103x4.0</p>	<p>7. Place ALL the discs.</p> <p>IMPORTANT WS DISC Striated side</p>  <p>8. It is recommended to introduce the WS Discs in the cartridge with the striated side faced down.</p> <p>The same side of two WS DISC can never be together.</p> 	<p>9. Thread the piston making a soft pressure at the same time it is turned to its adjustment.</p>  <p>10. Insert the filtering element safety, push down</p>

7.3. Maintenance filtration element

In long stop periods, the O-rings should be lubricated. Furthermore, the state of the internal components of the filter should be checked.

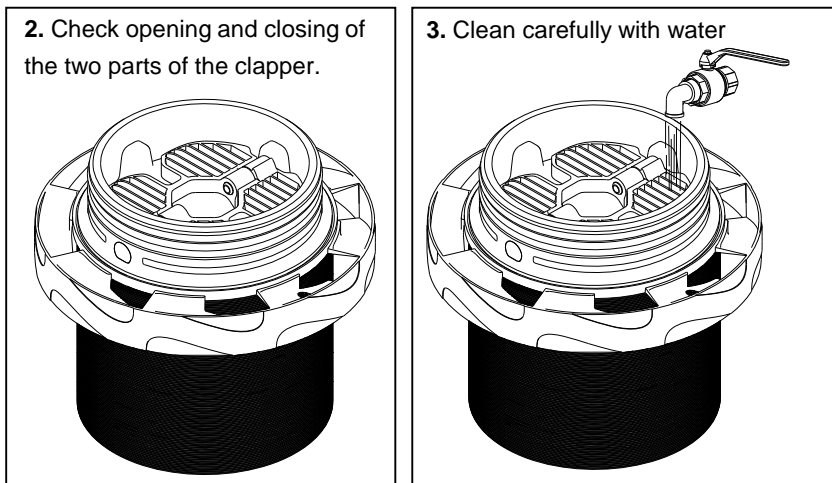
7.3.1.- Checking of the filtering element 92,6x100x4 and 103 x 4 O-rings

1. Open the clamp and take away the lid of the filter carefully; take out the filtering element; turn the piston until it is released and take it away.
2. Check the estate of the filtering element O-rings.
3. Thread the piston of the filtering element making a slight pressure and turn to its adjustment.
4. Lubricate the area of the O-rings (see picture in the right).
5. Introduce the filtering element pushing carefully in the base of the filter.
6. Place again the lid and close the clamp.



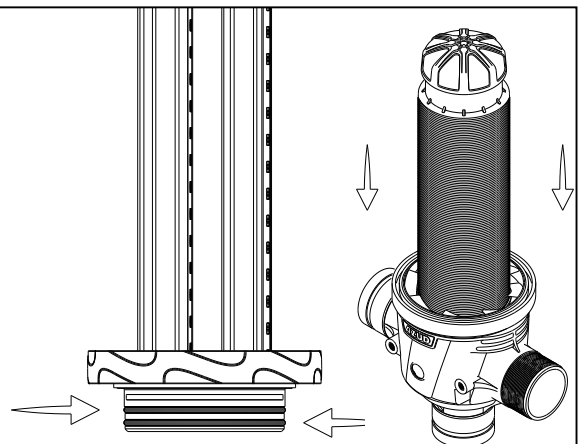
7.3.2.- Checking of the movable elements of filtering element base (cap of discs, spring and spring holder).

1. Open the clamp and take away the lid carefully: take away the filtering element. (see section **Cleaning of discs**).



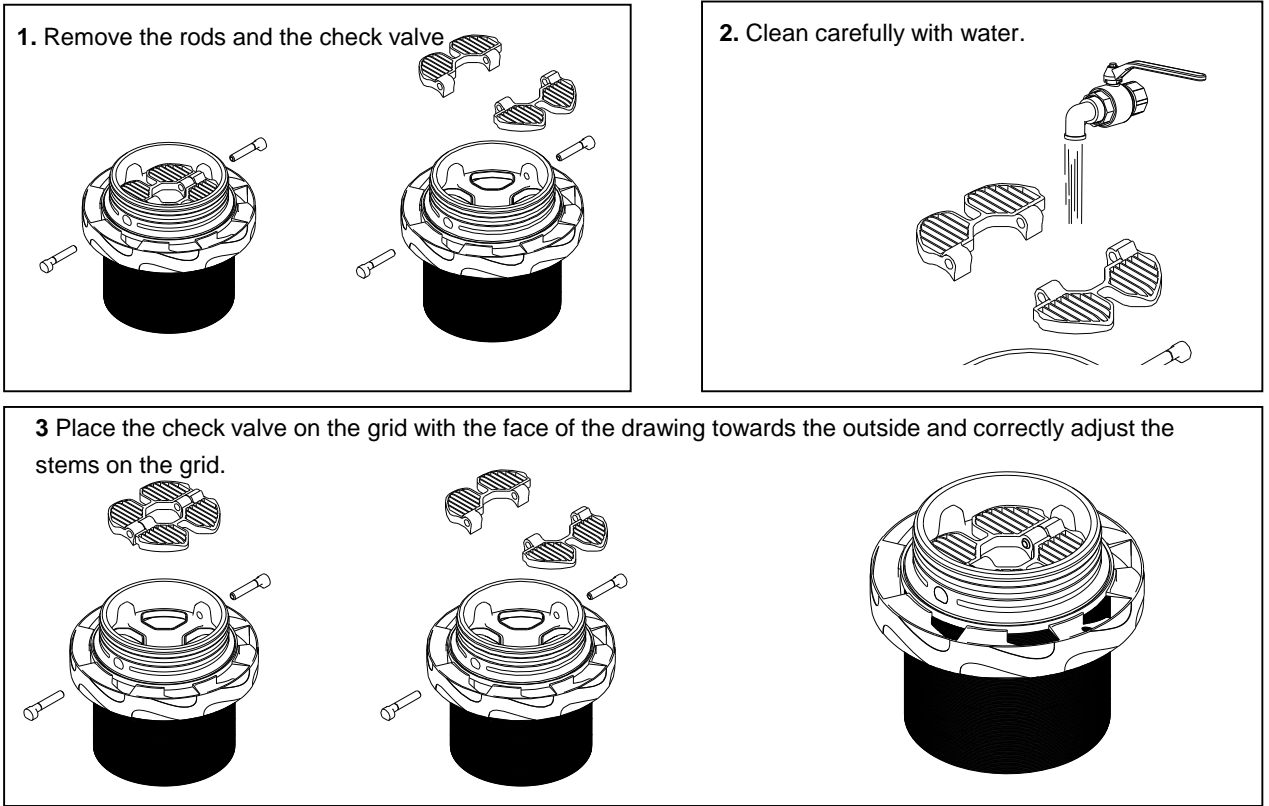
4. Lubricate the gasket of the base of the filter element, with a product chemically compatible with the filter material. Insert the filter element by pushing it gently. (See sections 6.3 and 6.4 of the section **Cleaning discs**).

5. Fit the lid and close the clamp (See section **Opening and closing the filters**).



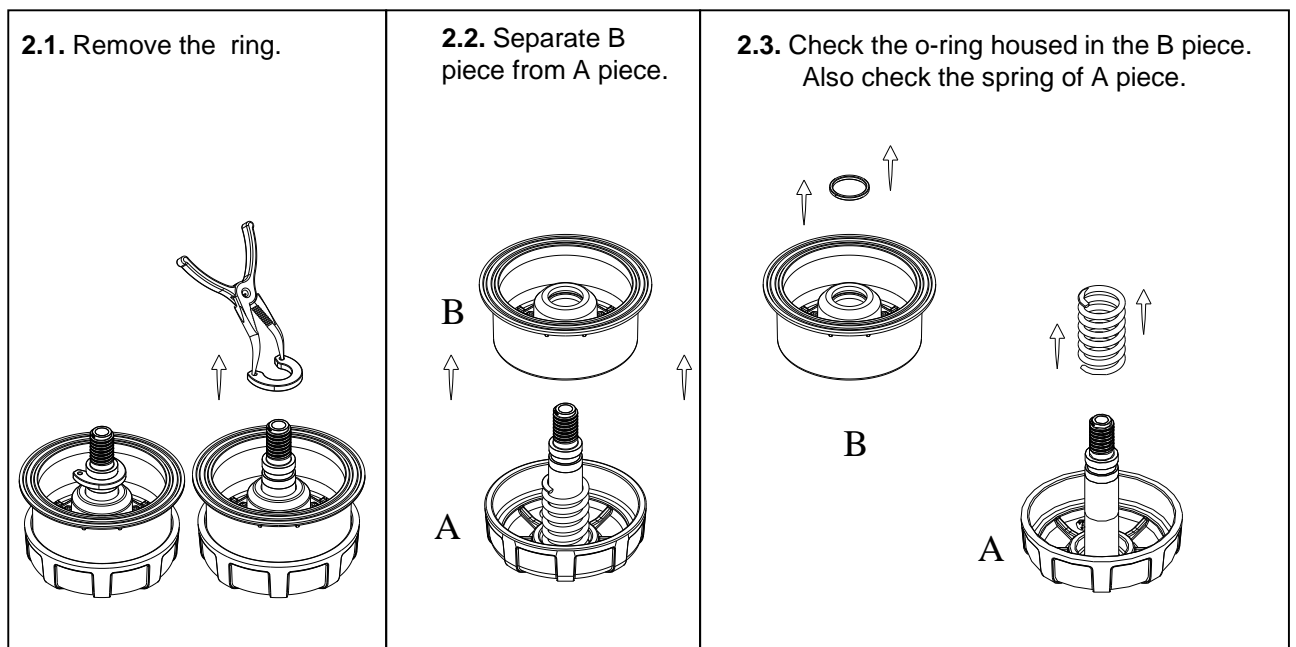
If you have any doubt please contact us.

7.3.3. Removal of the moving element from the base of the filter element (CHECK VALVE)



7.3.4.- Checking of the piston elements.

1. Open the clamp and take away carefully the lid of the filter; take out the filtering element. Turn the piston until it get released and take away the piston. (See **Cleaning of Discs** section).
2. Disassemble and check the components of the piston. Disassembly:

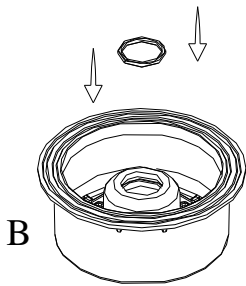


3. Assembly:

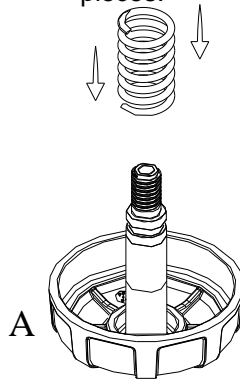


- Apply lubricant in the piston components for its assembly. Sistema AZUD recommends the use of neutral Vaseline.
- Check the chemical compatibility between the lubricant and the filter material

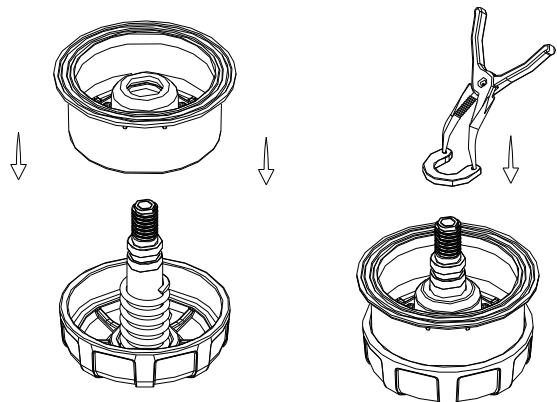
3.1 Introduce one washer in the spring and the other in the rod of A piece



3.2. the o-ring in the interior housings of the B-pieces.

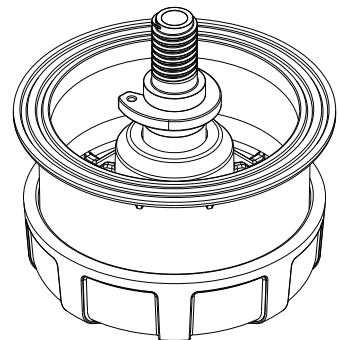


3.3. Introduce the B Piece on the axis of A piece. Fit the ring on the axis of B piece using the pliers until it fix in the groove of the rod.



3. Place the piston in the filtering element, lubricate the base of the filtering element with a product chemically compatible with the material of the filter and introduce the filtering element pushing it carefully in the base of the filter. (see sections **Cleaning of discs**).

4. Place the lid and close the clamp (see chapter **Opening and closure of the filters**).



To the identification of the components check chapter 2.4. of the manual

If you have any doubt, please contact us.

7.4 Checking of components.

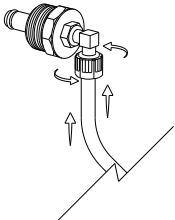
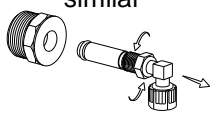
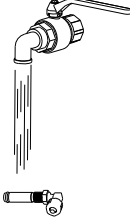
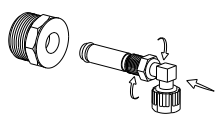
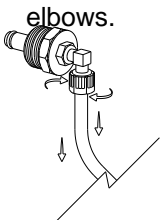


Make sure that the Equipment is depressurized before carrying out any maintenance operation in which the interior of the Equipment is put into contact with the atmosphere.

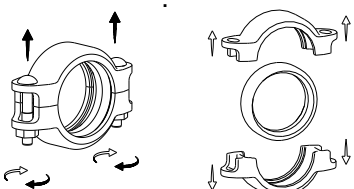
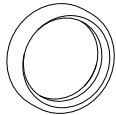
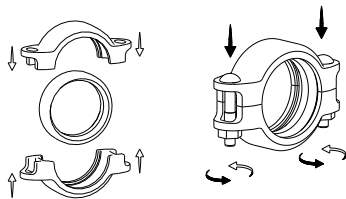
7.4.1.- Checking the 1/4" intake filters.



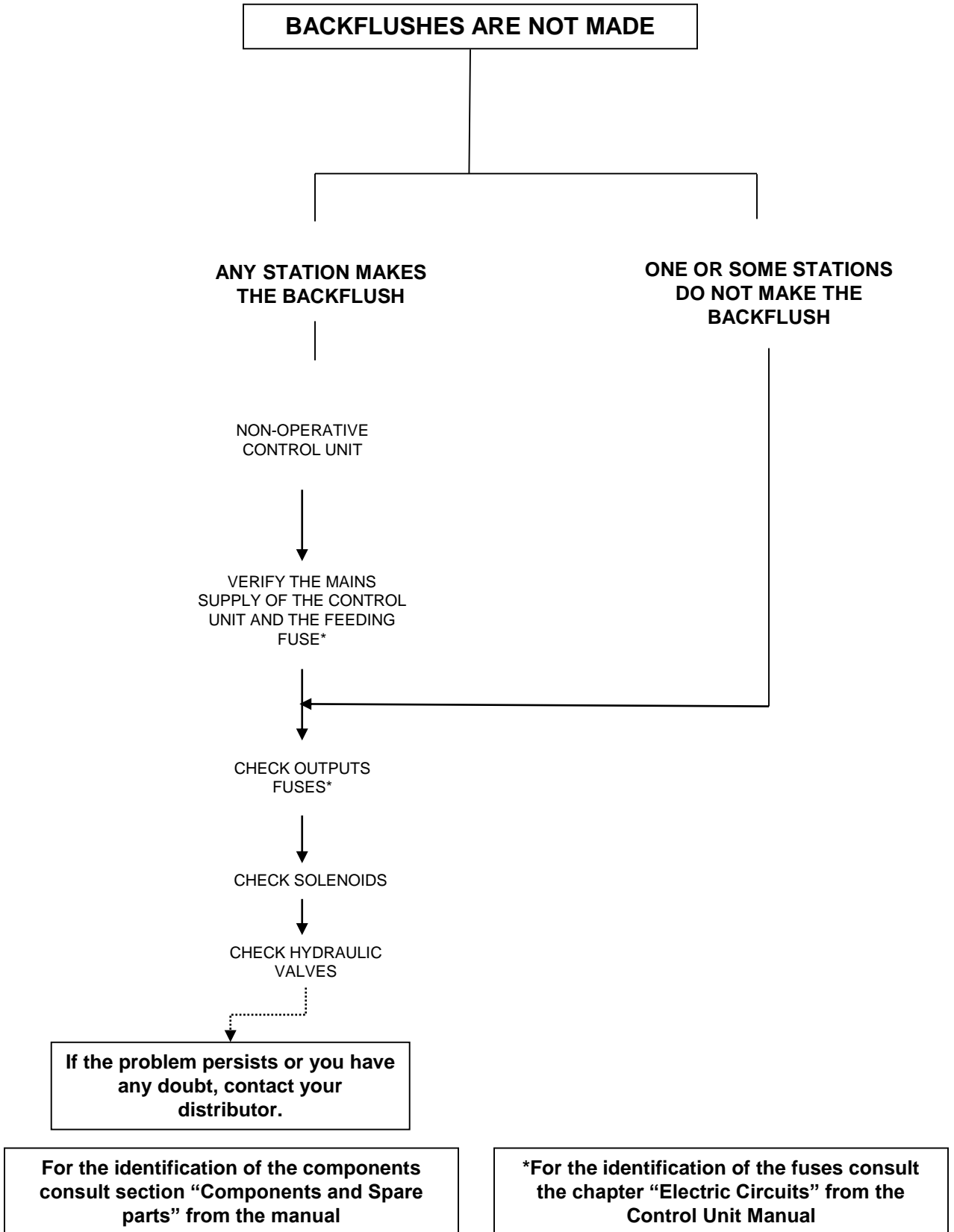
Applying too much sealer or forcing the threads may damage them

<p>1. Disconnect P1 and P2 microtubes</p> 	<p>2. Extract the 1/4" filters of each intake in the inlet and outlet manifolds and in the sustaining valve with a N.13 spanner or similar</p> 	<p>3. Clean them</p> 	<p>4. Place the 1/4" filters in manifolds with a spanner N.13 or similar previously applying sealer in the thread</p> 	<p>5. Connect the command microtubes P1 & P2 to the 8x1/8" male elbows.</p> 
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7.4.2.- Maintenance of the Grooved couplings.

<p>1. Disassemble the grooved coupling with a spanner or similar</p> 	<p>2. Apply grease to the coupling joint</p> 	<p>3. Assemble the coupling</p> 
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8. Possible problems-causes-solutions

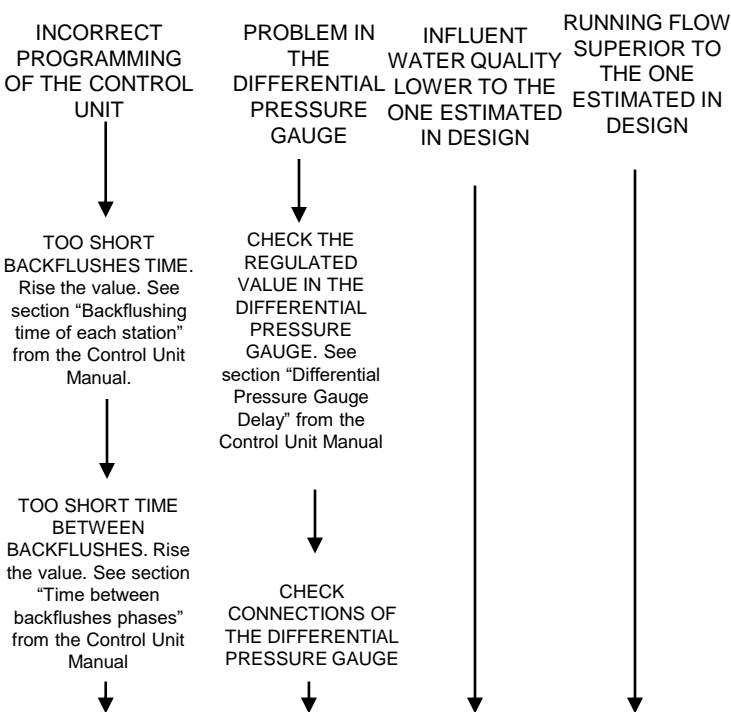
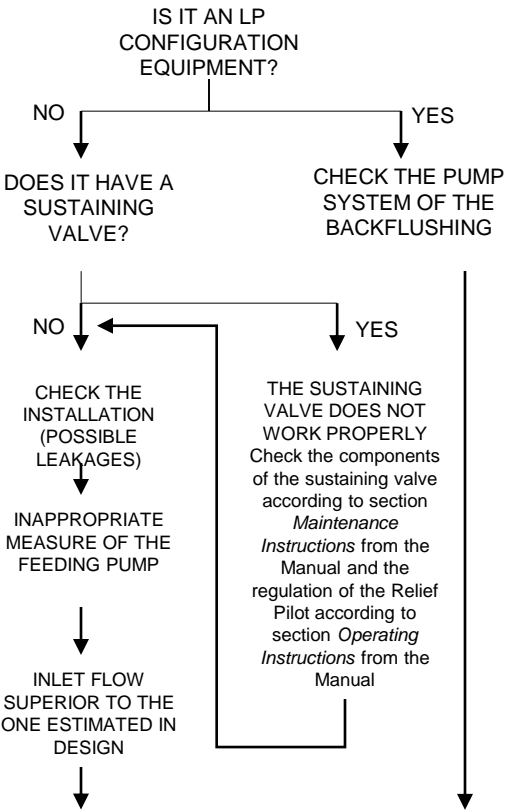


CONTINUOUS OR TOO FREQUENT BACKFLUSHES

ACTIVATE A BACKFLUSH AND CHECK THE PRESSURE IN THE OUTLET MANIFOLD

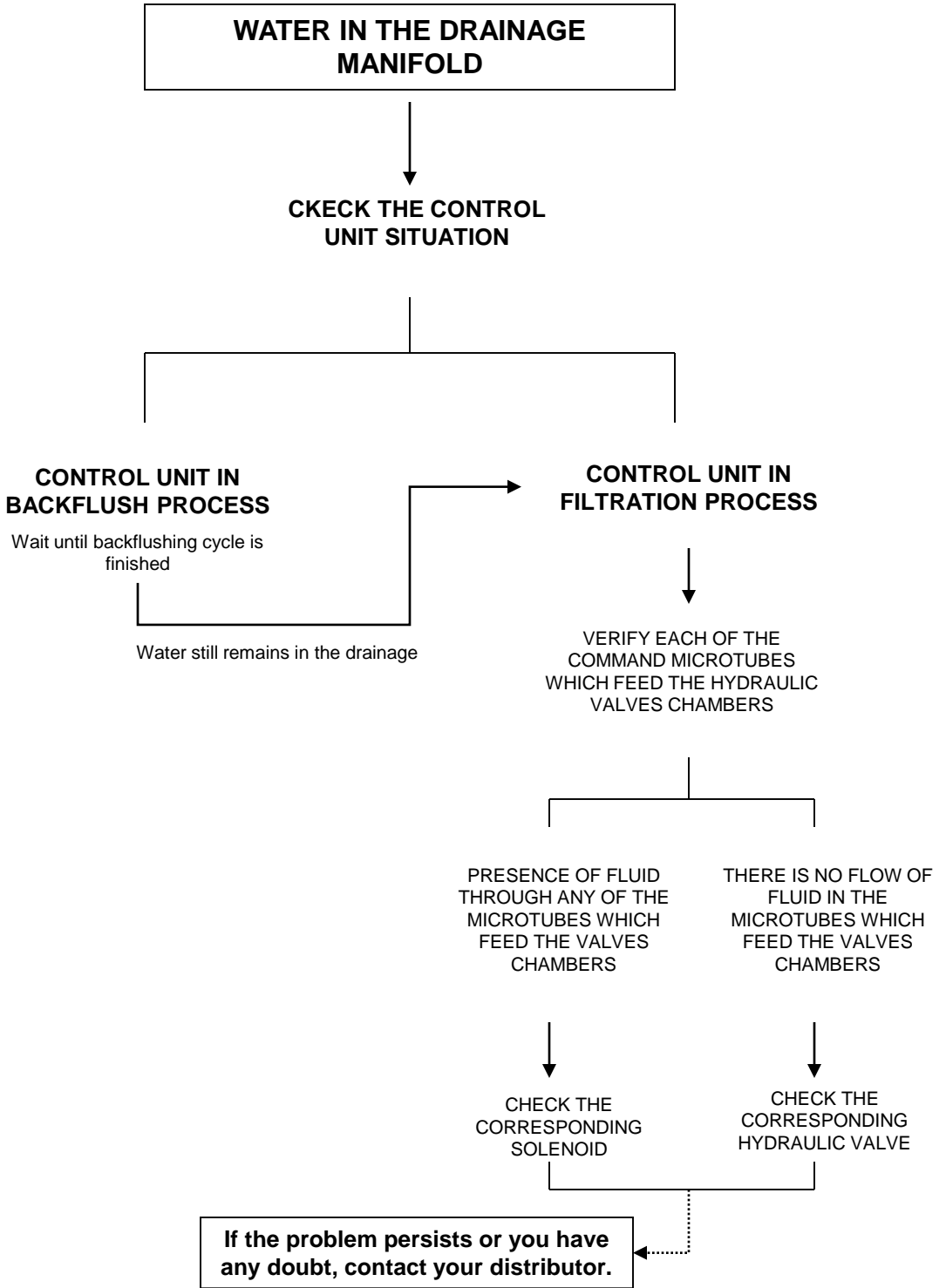
PRESSURE INFERIOR TO THE MINIMUM REQUIRED. See section "Technical Data" from the Filtration Equipment Manual

PRESSURE EQUAL OR SUPERIOR TO THE MINIMUM REQUIRED. See section "Technical Data" from the Filtration Equipment Manual



If the problem persists or you have any doubt, contact your distributor.

For the identification of the components consult section "Components and Spares" from the manual



For the identification of the components consult section “Components and Spares” from the manual

9. Warranty.

1. Sistema Azud, S.A. agrees formally either to replace any defective component or to repair any defect that is exclusive responsibility of Sistema Azud, S.A., provided that the buyer informs Sistema Azud, S.A. about the defects in a maximum period of one year from the delivery date. Once that the period has expired, either refunds or claims due to this reason will not be accepted. The warranty will cover no cost of displacement, neither the shipment of pieces and/or materials, nor the expenses of assembly or disassembling of the products.
2. The express warranty provided herein is effective only if claim is made by written notice within the applicable warranty period and postmarked within thirty days after the discovery of the defect on which the claim is based.
3. This warranty will not cover any defects that result either from a wrong installation of the products and materials, an incorrect use of them or the non-observance of the User's Manual content. And in general, this warranty will not cover any other kind of irregularity beyond the operation of the product.
4. This warranty will not cover the damage caused by operating the products in places, installations, natural environments or aims, without suitable conditions and characteristics to obtain an optimal output.
5. Repairs made during the warranty period will not prolong the duration of the warranty.
6. This warranty will cover only the products and materials or components which have been manufactured by Sistema Azud, S.A. and have been directly bought from Sistema Azud, S.A. This warranty is not a consumer or end user warranty and does not extend to anyone other than those trade costumers who purchase directly in Sistema Azud, S.A.
7. In particular, it is excluded from this warranty damages and failures in the sold materials that result from fortuitous facts or force majeure; and specifically and without limit, those caused by insects or rodents; higher pressure than recommended; those caused by inadequate electrical tensions; by operations made in different conditions to the specific rank of the product management; by qualities of water, by acid environments, decantations, precipitations, bacteria or algae agglutinations. It will be excluded either the breaking caused by the lack of a pre-filter in the installation, or not protected installations against water hammer, or other hydraulic or electrical incidents.
8. This warranty will not cover materials which have been either repaired or modified by an unauthorised person, or have been used, installed or modified without following the instructions given by Sistema Azud, S.A.
9. Sistema Azud, S.A. will be allowed to check the defects reported by the purchaser using the means that may be considered appropriate. The purchaser is not allowed to obstruct the proceedings of the people authorised by Sistema Azud, S.A. to verify the facts.
10. Sistema Azud, S.A. is not liable for direct, indirect, incidental, or consequential damages during periods of malfunction. Neither Sistema Azud, S.A. is liable for any loss or damage in the property, resulting from installer's negligence.
11. No person or organisation is authorised to introduce any modification in the present warranty. Except for the obligations specifically set forth in this warranty statement, in no event shall Sistema Azud, S.A. be liable for other incidental o damages.

Write the serial number of the Equipment to the request of spares or any other question about your Equipment:

SERIAL NUMBER _____

MODEL _____

MANUFACTURING YEAR _____

Request your spares to:

SISTEMA AZUD, S.A.

Polígono Industrial Oeste • Avda. de las
Américas P. 6/6
30820 ALCANTARILLA – MURCIA- SPAIN
Tel. + 34 968 80 84 02
Fax: +34 968 80 83 02
E-mail: azud@azud.com
[http:// www.azud.com](http://www.azud.com)