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HOPPERFILL 01

DUST COLLECTOR

TECHNICAL CATALOGUE
ASSEMBLY-MAINTENANCE CATALOGUE
SPARE PARTS CATALOGUE

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1.

TECHNICAL CATALOGUE

1.1 BASIC SAFETY WARNINGS

In compiling this instruction catalogue, careful attention has been paid to all considerations of operation and maintenance during normal working conditions. Buyers/users are exclusively responsible for complying with all laws, rules and regulations in force in their country/area regarding safety of working environment and labor safety.

For matters which are not specified by the manufacturer in this catalog, as requirements of the applicable environmental process, safety, health care and other social responsibilities applicable laws, regulations, instructions and rules will be effective.

Special care should be taken against all possible risks, danger and accidental incidents which may occur during the operation of the product.

This catalogue contains description and recommendations for guiding set-up, start-up, operation and maintenance procedures.

This catalogue or its related parts should be kept close to the product with easy access for users. It is the buyer's/user's responsibility and authority to ensure the delivery of this catalogue to related users of the product.

Never start any operation before reading this catalogue completely. The product is produced solely for its intended use. Please ask for manufacturer's approval for different applications.

The product should be operated in and under normal operating conditions. Manufacturer is absolutely not responsible for any complications or their consequences in cases where alterations have been made without written consent of the manufacturer.

All protective and safety clothes, tools, devices and conditions have to be supplied by user. The unit has to be fixed during and prior to any operation.

In order to perform assembly, maintenance, repair and cleaning on the product, according to 2006/42 EC the user must take all necessary precautions to ensure public safety, safety of the environment and its entities and also take all actions to prevent any harm that may involve third parties.

Requirements of pneumatic lines and air usage shall be completed by the user to meet air consumption according to technical specifications which are given in technical catalogue.

Only fully qualified and authorized electricians should carry out electrical operations. Occupational safety and worker health requirements must be met. Electrical problems and their consequences are out of manufacturer's control and are not covered under warranty. The manufacturer cannot be held responsible for any damage to property, persons or third parties, arising from poor electrical workmanship.

Always ensure that the power is disconnected before each operation. It is vital important that Power button has to be managed by a qualified person to prevent uncontrolled opening and closing.

All electrical connections shall be executed by the user to ensure safe operation. User also has to take necessary actions to avoid uncontrolled startup of machine by means of emergency stop and switches of sufficient amount.

Controlling the status of Voltage and frequency's compliance is important. The electrical earthing of the product must be proper, safety warnings should be clean and readable, and all operations should be according to EN 600079-14 and TS 60204-1 EN standards.

Do not start up, if the unit is not complete and/or not in proper condition. Do not interfere with the unit during operation. Never approach while the units are operating. Never let tools, hand or head to approach to the operating zone during operation.

Should you require further technical information or spares for your unit, please contact the manufacturer and it is necessary to inform all data such as serial number, type etc. which are written on the machine's plate.

Make sure that; all lifting/transportation operations must be carried out in accordance with the instructions specified in this catalog and the relevant standards. Lifting operations should be done with accessories and carrying systems suitable for unit dimensions and weight.

Manufacturer can modify the product without notice and immediate effect. All dimensions specified in the catalog are for nominal standard parts. Dimensions and features may change depending on the type of project, applications, material.

This catalogue cannot be changed without informing the manufacturer. The latest version of the catalogue is accessible at our web site www.ozb.com.tr.

1.2 SAFETY SYMBOLS

These signs are of a warning nature and do not eliminate the risk. These instructions and/or warnings are recommendations, which should be run in conjunction with the latest health and safety directives in accident prevention.

WARNING DANGER Special indication, provision and prohibiton to prevent injury to personnel.	
ELECTRICAL POWER DANGER	
MAX PRESSURE 36 psi	

1.3 UNIT DESCRIPTIONS

Dust Collectors are generally used to withhold particles from spreading during the transfer of a bulk solid to an enclosed stocking area.

HOPPERFILL 01 is designed to collect dust on hoppers, weigh bins where ventilation is vital.

It provides a filtering area of 11 ft^2 and is produced in 10” diameter body.

HOPPERFILL 01 comprises of

- Jet-pulse cleaning system
- Stainless steel body
- Durable thermoplastic top cover
- Cartridge type filter element
- Mounting flange

1.4 OPERATION CONDITIONS

Products are not designed to operate in explosive, flammable, toxic, hazardous viral or dangerous bacterial environments and/or materials. If the machine has to operate in these conditions, the manufacturer must be informed.

The appropriate use of the unit according to the food norms should be reported to the manufacturer at order although the unit has to be produced accordingly.

Max admissible temperatures

176 °F Continuous
-4 °F
212 °F Intermittent/Instantaneous

Max pressure on construction

1.42 psi positive
-0.57 psi negative

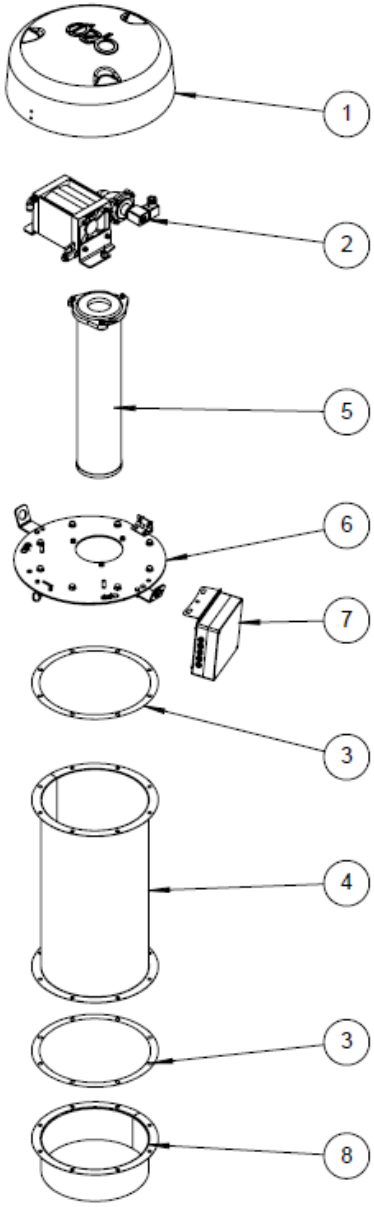
1.5 PRODUCT LABEL

Every unit is supplied with identification plates showing;

- Manufacturer’s information
- Manufacturer’s web site
- CE logo
- Product code
- Production place
- Type
- Serial number
- Production year

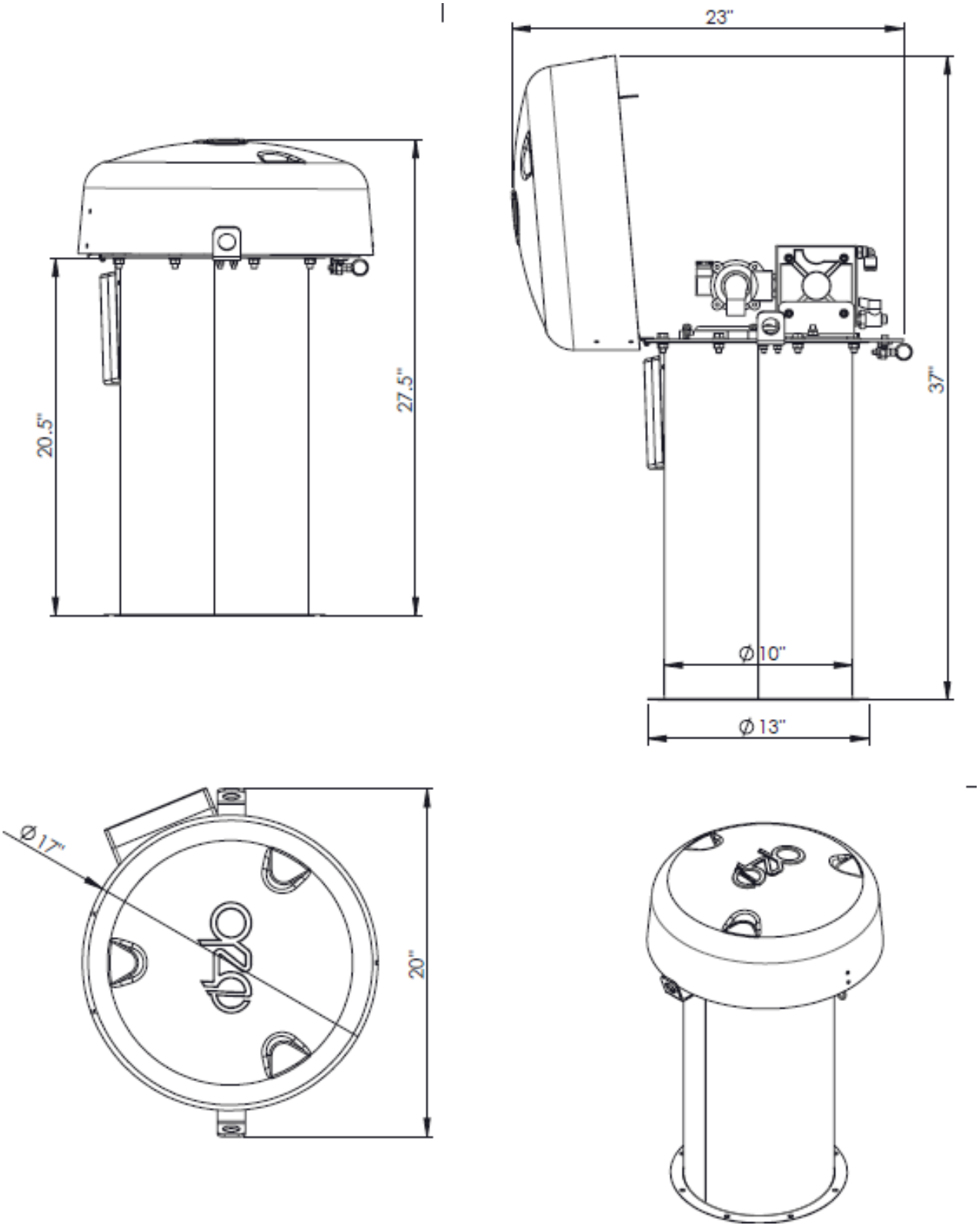
Do not throw away the labels on the unit and do not change the information on the label. Make sure that labels are clean and legible.

1.6 COMPOSITION



#	Description
1	Cover
2	Air tank
3	Seal
4	Body
5	Filter element
6	Filter element plate
7	Electronic card
8	Flange

1.7 OVERALL DIMENSIONS



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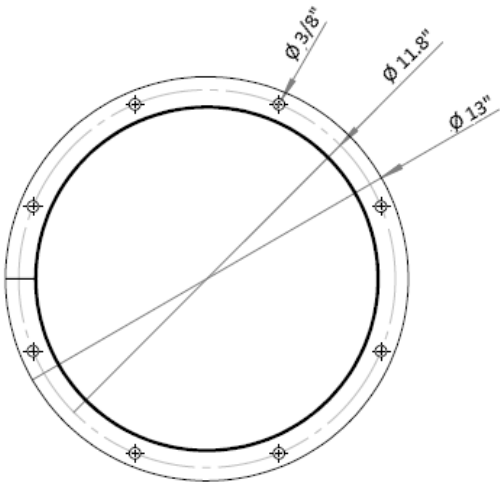
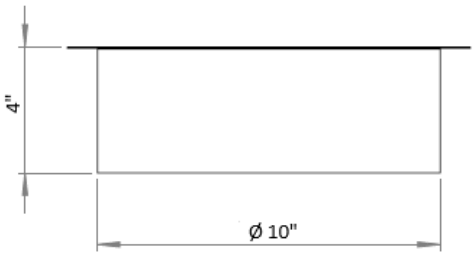
1.7.1 FLANGE DIMENSIONS





1.8 TECNICAL PROPERTIES

Filtering area:	11 ft²
Body diameter:	10”
Body material:	Stainless steel
Protection cover:	Thermoplastic
Filter element:	Ø 4.53” cartridge
Filter element quantity:	1
Filtering media:	7.96 oz/yd², %100 polyester
Filter element length:	20”
Filter element plate:	Galvanized
Cleaning system:	Jet pulse
Electronic board:	Included
Number of electro valves:	1
Silo connection flange:	Carbon steel

1.8.1 FILTER ELEMENT

Composition	100% Spunbonded Polyester
Weight	7.96 oz/yd²
Thickness	0.02”
Tensile strength md	137 lbs/in
Tensile strength cd	68.5 lbs/in
Elongation md	40%
Elongation cd	30%
Permeability to air	5.19 cfm/ft²
Volume of pores	66%
BIA rating	M
Color	White

1.9 PACKAGING DIMENSIONS AND WEIGHTS

Package sizes and weights of the units are given below.

When receiving the units; check if the unit code and quantity are compatible with your order. Possible damages must be reported/informed to the authorized person of cargo/transportation company before taking the goods. The manufacturer is not responsible for any damage that may occur during transportation.

Type	L (in)	W (in)	H (in)	Net Weight (lbs)	Gros Weight (lbs)
HOPPERFILL 01	20.87	18.50	27.56	28.66	30.86

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2.
ASSEMBLY-MAINTENANCE CATALOGUE

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2.1 SAFETY CONDITIONS AND PROTECTIONS

It needs to be kept at nearest position available for the concerned personnel for installation, operation, maintenance and repair staff.

This catalogue is a guide for users. It is the user's responsibility to take all necessary precautions to ensure occupational safety, worker health and safety of third parties as well as ensuring operations in accordance with local laws and regulations.

In order to perform assembly, maintenance, repair and cleaning on the product, according to 2006/42/EU, 2004/108/EU, 2006/95/EU Directives the user must take all necessary precautions to ensure public safety, safety of the environment and it's entities and also take all actions to prevent any harm that may involve third parties.

In case of handling hot material over 60°C, it is the user's responsibility to assemble barriers and warnings in order to secure the workplace.

Apart from normal operating conditions, the product has to be in safe position.

This unit may be working on dynamic forces, electrical energy and pressurized air and operates under high level of mechanical risk. Accidents that may arise due to any of the above or any combination of the above may result in catastrophic effects. Therefore, the user is responsible for supplying maximum security in all stages and operations.

All related staff should be trained, authorized and specialized. For all work to be done on the product, other than normal operation, the electrical connection must be cut, all movement stopped, pressurized air supply disconnected and the product must be in good condition and in park mode.

Only fully qualified and authorized electricians should carry out electrical operations. Occupational safety and worker health requirements must be met. Electrical problems and their consequences are out of manufacturer's control and are not covered under warranty. The manufacturer cannot be held responsible for any damage to property, persons or third parties, arising from poor electrical workmanship.

The user who is carrying out the assembly is responsible for creating electrical circuits that will overcome all risks that may arise due to misuse during start, stop, emergency stop and maintenance.

It is necessary to check the compatibility of voltage and frequency. Operations should be carried out only by knowledgeable and authorized staff. In case air usage is required via pneumatic connections, the user should assemble a system to meet the requirements given on the technical information section.

The electrical earthing of the product must be proper, safety warnings should be clean and readable, and all operations should be according to EN 60204-1:2018 standard.

Before each operation, always ensure that the power is disconnected before commencing. It is vitally important that power on/off button has to be managed by a qualified person to prevent uncontrolled opening and closing.

Make sure that all moving parts are in absolute stop before ach operation.

Always ensure that the dust inside the machine is completely settled.

Operators must use the following protection equipment during the maintenance and cleaning of the machine;

- Antistatic protective clothing
- Protective Helmets
- Antistatic cut-proof gloves
- Safety masks
- Antistatic protective shoes

After assembly, check that all operations are properly and fully completed, all bolts are tightened, all warning labels, barriers and safety accessories are proper.

Do not start operation if the product is not complete and fully mounted. Do not interrupt externally during operation. Never approach while the units are operating. Never let tools, hand or head to approach to the operating zone during operation.

In case modifications are made without written consent of the manufacturer, no responsibility will be assumed by the manufacturer in case of damage and their consequences.

The product may display different wear and results according to material used and working conditions. Therefore the user is required to develop practices other than those given in this catalogue.

During the practice of below maintenance notes, situations that may result in harm to humans or machines or which prevent the product from working may occur. All inspections and maintenance must be done when product is in safe position.

Maintenance staff must be fully qualified. Tools for lifting and stabilizing must be used. No humans must be present during lifting and carrying operations.

It is important to use original parts or parts that have the required specifications.

It is possible that problems may occur, and the product may be declared out of warranty in case maintenance work is carried out without full compliance with this maintenance guideline.

2.2 ASSEMBLY

Please refer to assembly instructions, which can be found inside of each product package.

Carefully follow all technical, safety and worker health instructions during the assembly and the operation of the unit.

For right terminal connections of the unit, please double check voltage, frequency, local regulations and procedures.

Disconnect from all mains before opening the unit.

Start up the unit only when the cover is closed.

Provide protection for relay contacts and output transistors to protect the device against spikes with inductive loads.

A voltage-disconnecting switch must be provided near the device.

In the case of inexpert handling or handling malpractice, the electric safety of the device cannot be guaranteed.

In the case of a defect, the distribution voltage must automatically be cut off by a protective switch so as to protect the user of the device from indirect contact with dangerous electric tensions.

All field wirings must have insulation suitable for at least 250VAC. The temperature rating must be at least 194°F.

Protect the power of the device by means of a fuse. The device body has to be earthed to avoid static charges. This is particularly important in pneumatic conveying applications or with non-metallic containers.

Close the cover when all connections are completed and supply the power. Always check the voltage with a voltmeter.

All electrical connections must be made according to the given connection diagram: make sure the cable is sealed tightly inside the cable gland.

Make sure the electrical connections are made properly and tightly. Setting on the assembled unit is not recommended.

Start the flange assembly as first step. Ensure that the dust collector flange is welded parallel to the place where the dust collector is used (silo, on bunker, etc.).

Locate the seal between flange and the dust collector, and assemble the dust collector by the bolts and nuts supplied.

Complete the necessary connections for air. Ensure the air pressure is in the range of 36 psi and the air is dry. Connect the control board, apply to electronic control board notes in 2.4.

2.3 START UP

Install the unit properly into the system. Make sure the electrical connection is made properly and tightly. Setting on the assembled unit is not recommended.

Before starting up the unit, make sure that no foreign bodies have entered during assembly if they have, remove them.

Ensure the pressurized air is dried by convenient air dryer and no oil shall be permitted. Check the electrical connections. Run the unit unloaded (idle) for a while.

Ensure that all energy air pressurized lines are properly connected and power selections are correct. Energize the electronic control board and check the valves are operative and sequencing is OK by listening to click sound on valves.

The pulse intervals are set to 40-45 seconds, it should not be changed.

The compressor airline must be dried and conditioned with a regulator, and it should be reduced to 36 psi pressure with the manometer regulator set. The water accumulate in the water tank should be cleaned frequently.

Make sure that solenoid valves are working properly. Check the cleaning cycle intervals and the pause time.

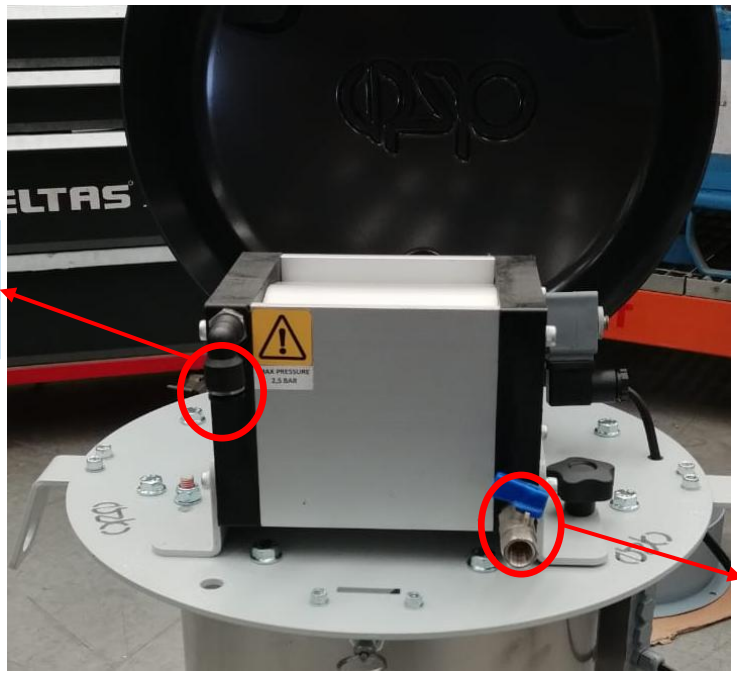
In case of any control and maintenance make sure energy and pressurized air is off and the tank is clean.

Overfilling should not be allowed. Filling should not be allowed after the maximum level warning.

After the silo truck filling is completed, the remaining amount of the silo truck must not be cleaned with excessive air. (Silo truck should not be inflated and opened suddenly)

Run the machine for max 2-3 minutes to observe and listen. Re-check the product and observe if heating has occurred on any component and/or abnormal noise, vibration occurs.

IMPORTANT: All connections should be undertaken by qualified electrical personnel only. Occupational safety and employee health requirements must be complied with. Before carrying out any operation on the motor, make sure that the electrical supply is disconnected. The constructor declines to take any responsibility for any damage to property or persons, arising from poor electrical workmanship.



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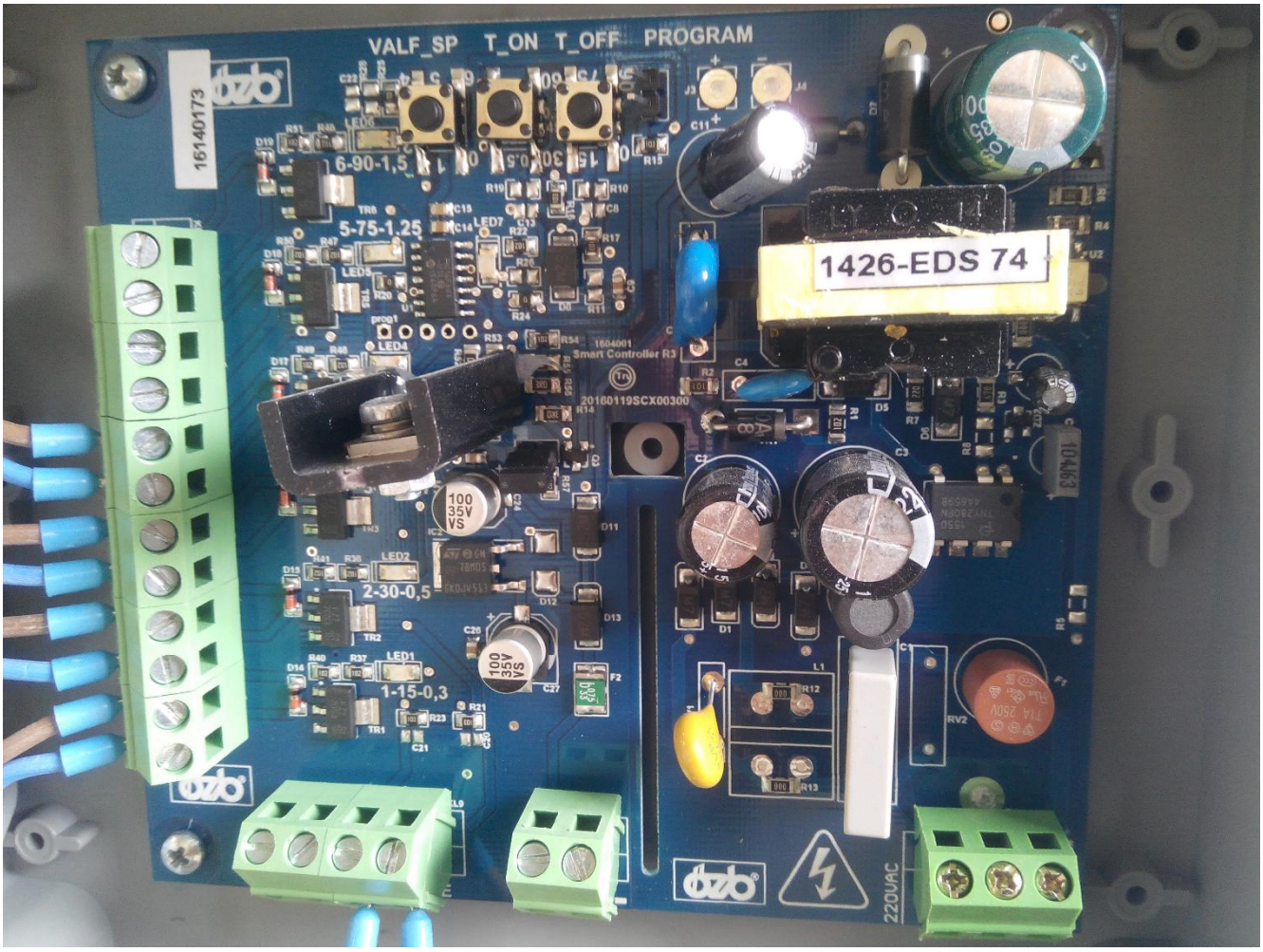
2.4 CONTROL BOARD

The Board is inside, 6.30 x 2.36 x 2.36 sealed waterproof, IP65 protection class box, and 110VAC, 220VAC 50/60 Hz or 24VDC voltage can be applied.

Always shut off voltage, before and during operation on the card.



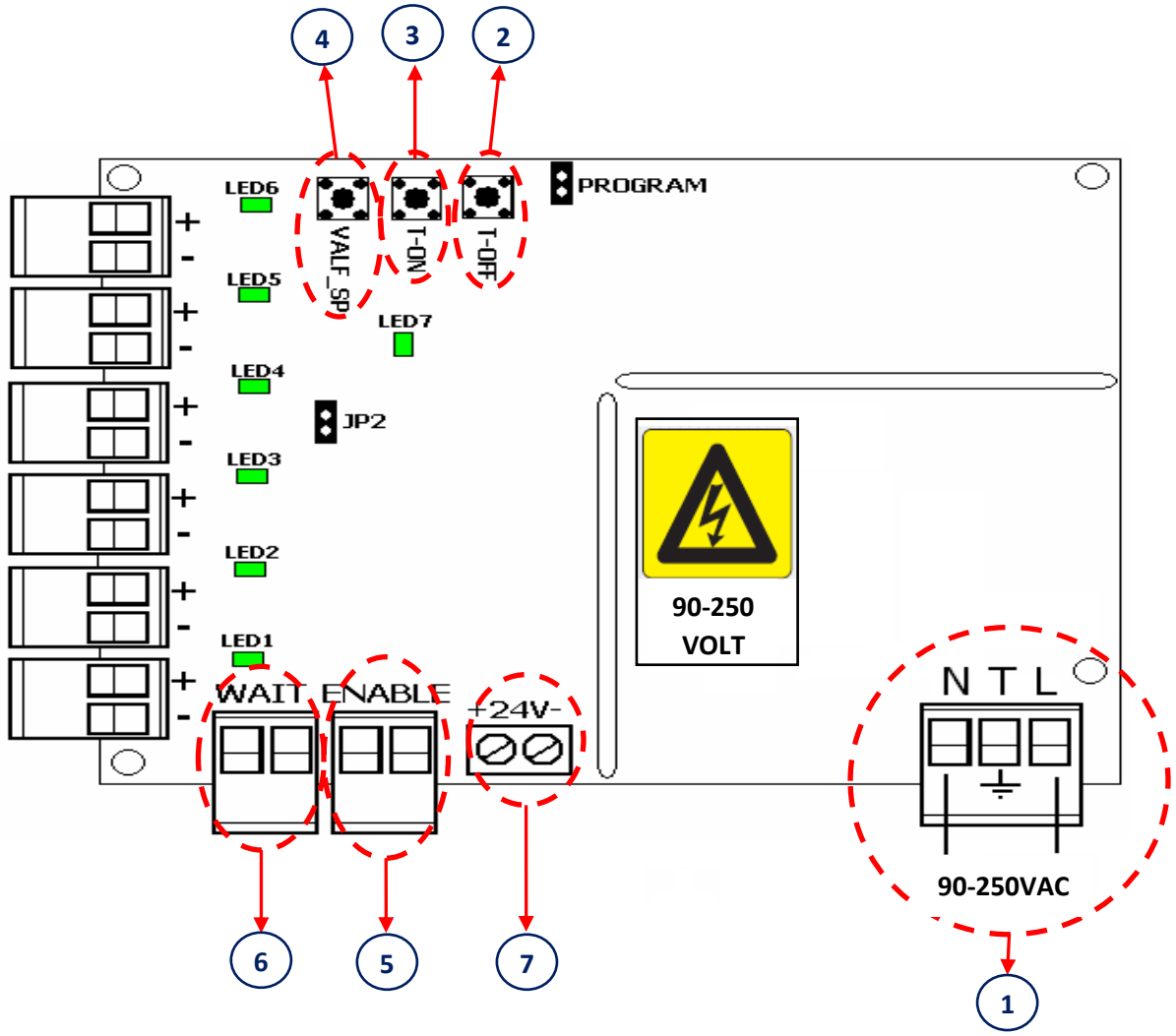


Figure - 1

1- NTL Feed input (90-250VAC / 50-60Hz) N: Neutral, T: Earth, L: Line
2- T_OFF Waiting Time
3- T_ON Operating time
4- VALF_SP Adjustment of valve quantity
5- ENABLE
6- WAIT
7- DC

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2.4.1 NTL FEEDING INPUT (90-250VAC / 50-60Hz)

90-250V feed input of device. Device is fed with 90-250V, can be seen the lighting of LED7 on board.

When Jumper is plugged into JP1; programmable mode,
When jumper is plugged to JP2; valves' operating mode.
NEVER: JP1 and JP2 must not be plugged at the same time.

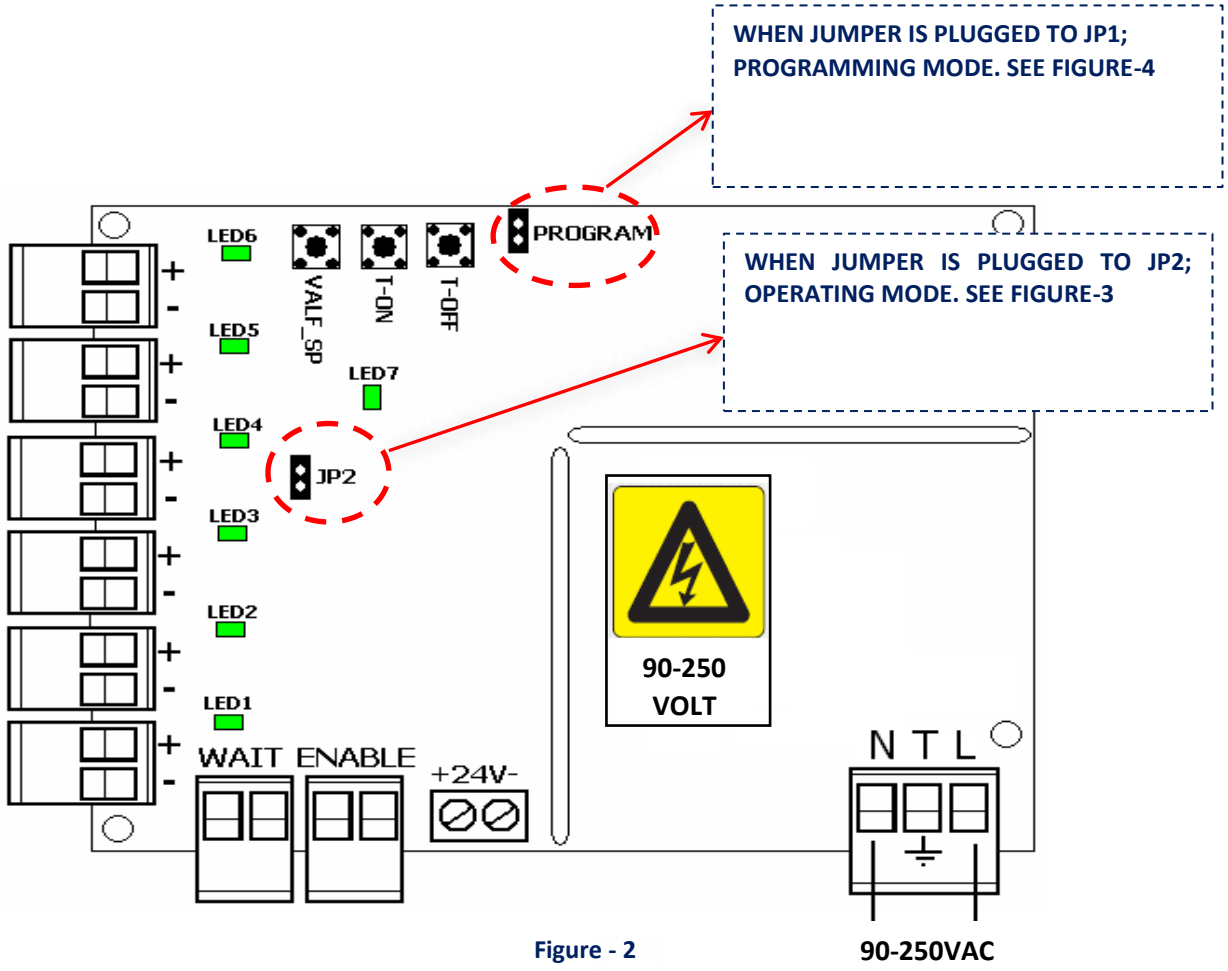

Figure - 2

2.4.1.1 OPERATING MODE

To make the electronic card ready to work, the "JUMPER" must be set as shown in the red circle on the photograph. See Figure-3.

2.4.1.2 PROGRAMMABLE MODE

To program electronic card and set valve number, stand by and working time, the “JUMPER” must be set as shown in red circle “PROGRAMME” on the photographs. See Figure-4

After settings, the jumper has to be put on work mode. See Figure-3

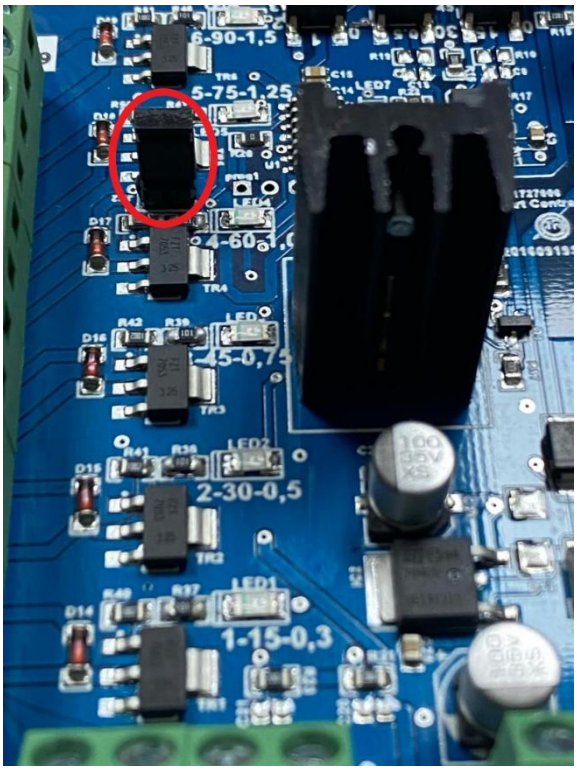

Figure - 3

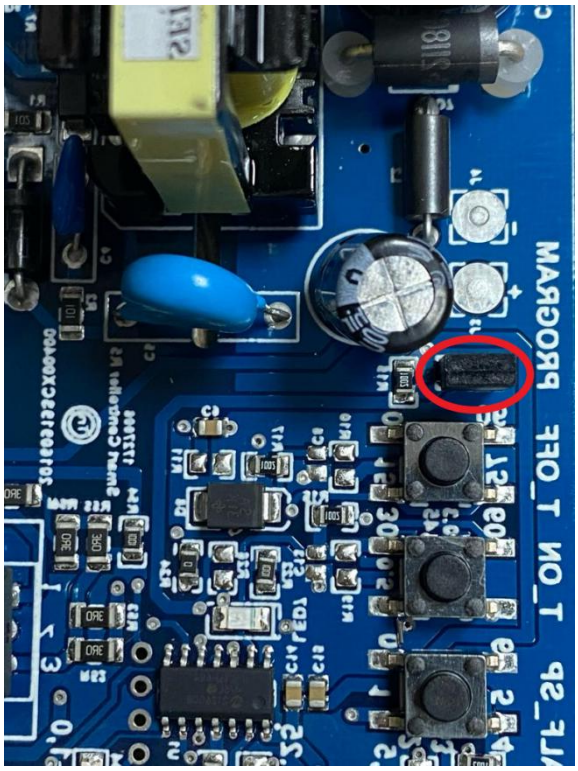

Figure - 4

2.4.2 T-OFF WAITING TIME

Standby time is the time interval of valves which will be energized turn by turn. This time interval can be adjusted for 0.5-90sec.
Factory settings is 45 seconds.
With every short push to the T_OFF switch, time interval increases 5 sec. and LED1 and LED7 wink.
With long push to the T_OFF switch, time interval increases 15 sec.
In 15sec stand by time, LED1 is lighting continuously.
In 30sec stand by time, LED1,2 are lighting continuously.
In 45sec stand by time, LED1,2,3 are lighting continuously.
In 60sec stand by time, LED1,2,3,4 are lighting continuously.
In 75sec stand by time, LED1,2,3,4,5 are lighting continuously.
In 90sec stand by time, LED1,2,3,4,5,6 are lighting continuously.
The media under high frequency emissions might cause deviation of ± 10 seconds.

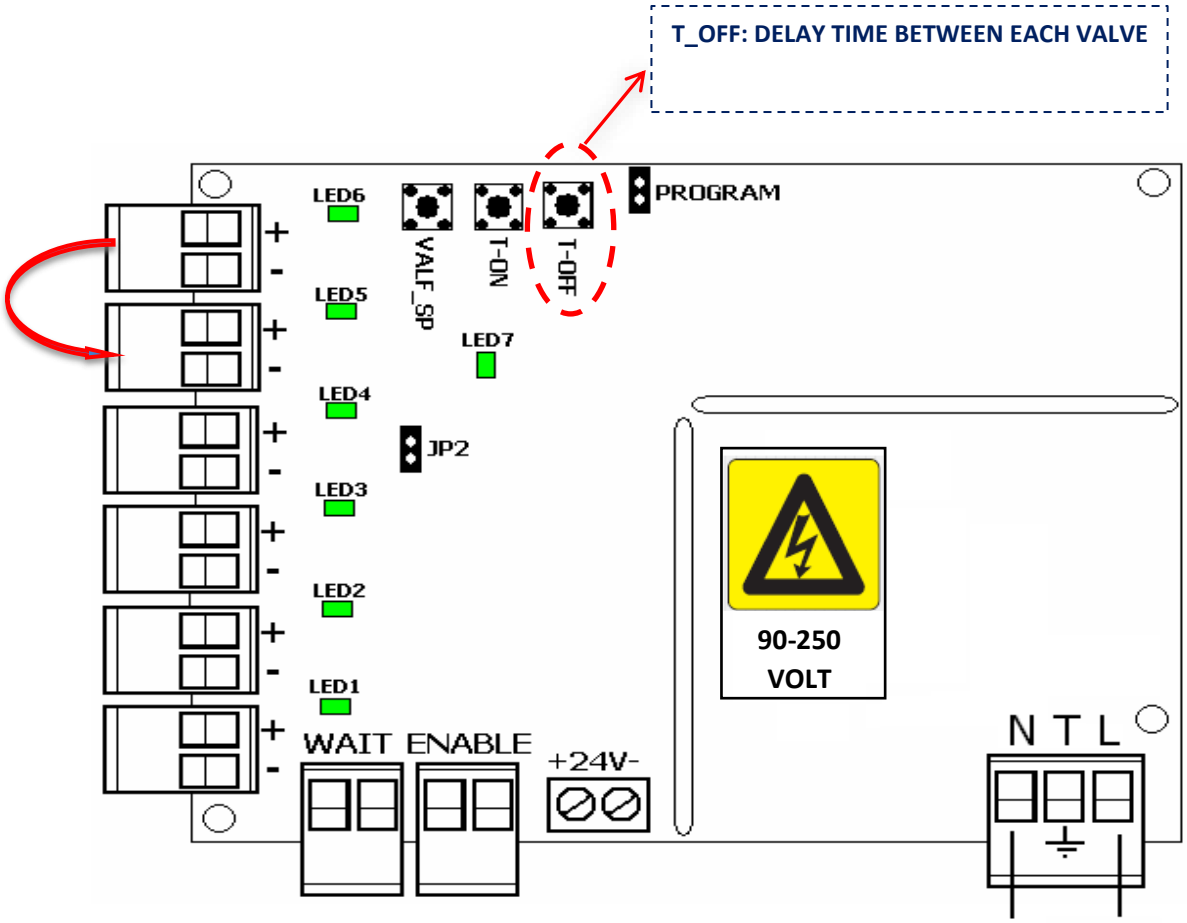

Figure - 5

90-250VAC

2.4.3 T-ON OPERATION TIME

Operation time is the interval when the outputs of valve's are energized. This time interval can be adjusted for 0.3-1.5 sec.
Factory settings is 0.3 seconds.
If any LED is not lighting, time interval is 0.2 sec
If LED1 is lighting, time interval is 0.30 sec
If LED2 is lighting, time interval is 0.50 sec
If LED3 is lighting, time interval is 0.75 sec
If LED4 is lighting, time interval is 1.00 sec
If LED5 is lighting, time interval is 1.25 sec
If LED6 is lighting, time interval is 1.50 sec
The media under high frequency emissions might cause deviation of + or – up to 10 seconds.

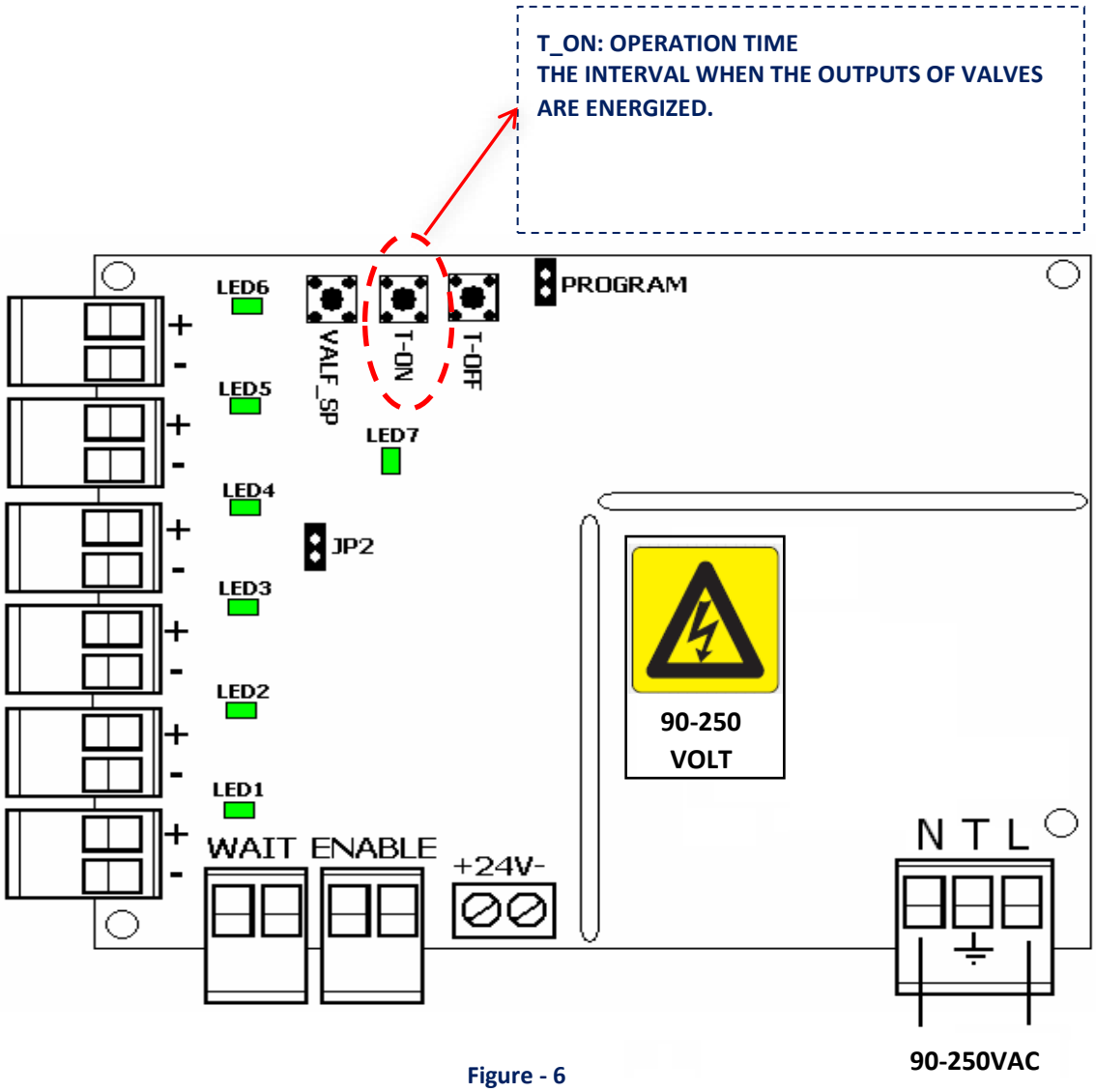

Figure - 6

2.4.4 VALF_SP ADJUSTMENT OF VALVE QUANTITY

Adjustment of quantity of valves assigns the system's operation with how many valves.
If LED1 is lighting: 1 Valve
If LED2 is lighting: 2 Valves
If LED3 is lighting: 3 Valves
If LED4 is lighting: 4 Valves
If LED5 is lighting: 5 Valves
If LED6 is lighting: 6 Valves

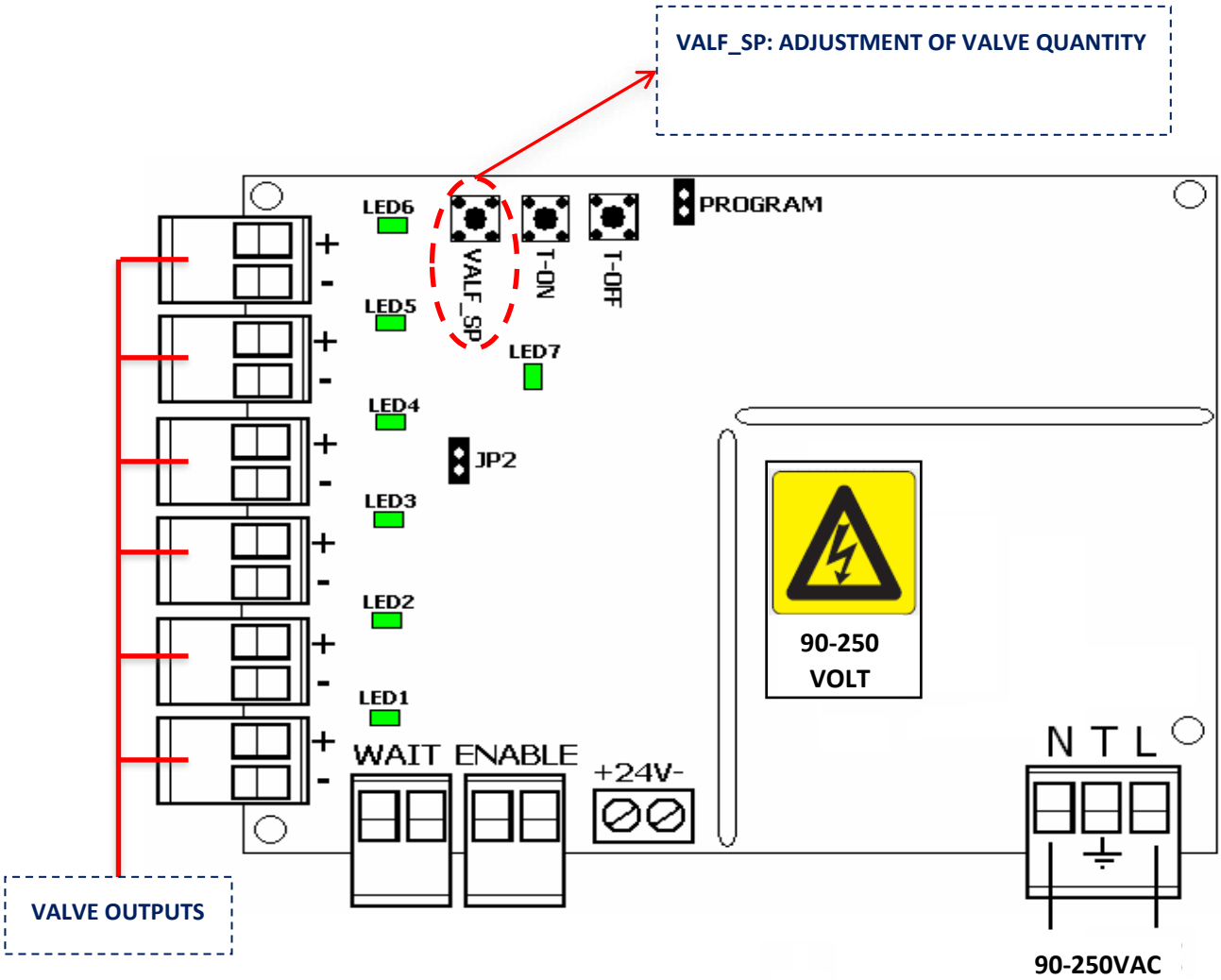

Figure - 7

2.4.5 ENABLE

An external contact enables the board.

2.4.6 WAIT

If standby is required while the system operates, operation of valves can be stopped by a short circuit due to the external contact. Valves will continue to operate after an open circuit.

2.4.7 DC

+24VDC feeding connector

OPERATION

Please apply the following procedures to run the board properly:

- **a.** Adjust number of valves.
  (VALF_SP)
- **b.** Set the operation time.
  (T_ON)
- **c.** Set the waiting time.
  (T_OFF)
- **d.** Apply an external contact on ENABLE sockets to activate the board.

 The external contact shall have no energy.

If any pause is needed during operation please activate “WAIT” socket by means of external contact.

When the external contact is deactivated the system continues to run from the point it was interrupted.

2.5 MAINTENANCE

Before maintenance procedures, all power lines must be disconnected.

Prior to each action, check that the energy lines are cut. It is vitally important to take precautions in order to prevent the on/off button of the power supply from being operated without authorization or control.

In case modifications are made without written consent of the manufacturer, no responsibility will be assumed by the manufacturer in case of damage and their consequences.

The product may display different wear and results according to material used and working conditions. Therefore the user is required to develop practices other than those given in this manual.

During the practice of below maintenance notes, situations that may result in harm to humans or machines or which prevent the product from working may occur. All inspections and maintenance must be done when product is in safe position.
Supply and use safety equipment and tools that may be required for worker safety.
Maintenance staff must be fully qualified. Tools for lifting and stabilizing must be used. No humans must be present during lifting and carrying operations.

It is important to use original parts or parts that have the required specifications.

It is possible that problems may occur, and the product may be declared out of warranty in case maintenance work is carried out without full compliance with this maintenance guideline.

Before each shift;
Check the unit visually.
Check that the warning labels on the machine are present and in good condition.
Check the electric motor cable and connections.
Check all the bolts and nuts present and they are tightened.

Daily maintenance;
Check the unit visually.
Check the cables and pneumatic lines, correct any defect.
Check if the dust collector pulse function is operating.
Open the discharge valve of the dust collector air tank to discharge accumulated water.

Weekly maintenance;
Open the top cover to check the clean part of the filter plate for dust.
Minor dust accumulation is normal, clean with a soft brush and/or compressed air.
Check the coils and fixing bolts.
Check the cable and sockets.

Monthly maintenance;
In addition to daily controls, turn off energy and the air supply.
Discharge the air in the tank and keep the tank release valve open during maintenance.
Open the cover.
Disassemble the distributor and place it safely.
Disassemble the filtering elements, check for anomalies such as damage, wear or tear.
Check the surface for dirt. Use plastic or wood without sharp edges to clean sticking material.
Do not perform hard or penetrative actions.
If necessary, clean by pressurized air or wash with water.
After drying, grease the lower platform and around the ring by using lubricants other than soap and petrol-based products.

Clean the filter plate surface and replace or reassemble the filtering element.
Assemble the distributor and reassemble the dust collector by repeating the above steps in reverse order.
Ensure that the unit is functional.

2.6 LUBRICATION

There are not any parts required lubrication.

2.7 REPLACEMENT OF COMPONENTS

If you require spares for your unit, please contact the manufacturer and it is necessary to inform all data such as serial number, type etc. which are written on the machine's plate. Do not use non-original parts.

2.8 DEMOLITION

At the end of the working life of the unit, demolish it according to the following recommendations: plastic parts consigning them to the authorized collection centers.

2.9 DEFINING PROBLEMS AND TROUBLE SHOOTING

Below are some guidelines regarding problems that may occur during the operation of the product.

Energy supply and pressurized air shall be available and condensed water to be discharged.

Turn on the electronic card, if red and green lights are not on, check the fuse at energy inlet. Check that coil of the valve is intact and functional.

During all controls, energy must be off, pressurized air lines empty, and tank completely discharged of pressurized air.

The pilot group shall be disassembled. (Make sure that the cylinder and spring inside the pilot to not change position). Ensure that the cylinder can move easily inside the pilot and is free from rust, grease, dust and residue. It is important that the 1,5mm hole in the pilot slot is not blocked, if so clean.

Open the top cover of the jet pulse valve with an Allen wrench and lift the cover without dropping the bolts.

Take out the diaphragm plate. Ensure that the channel on the top cover and holes on the pipe are not blocked, if so clean. Ensure that the diaphragm is free from dirt, residue, tear and similar defects.

Ensure that the valve lower body outlet and inlets are clean.

Ensure that the inlet and outlet holes of the distributor are open and functional. Check that distributor outlets are at the center of the filtering elements.

Repeat all above steps in reverse order and for each valve to reassemble the dust collector and re-connect energy and pressurized air.

In the dust collector does not start, apply to manufacturer with a detailed report of what you have done and the final status of the dust collector.

If filtering elements get blocked frequently, in addition to other controls, check the silo filling pipe outlet. It shall be perpendicular and downwards. If it is horizontal the emission is excessive, correct it.

Hints:
If everything seems normal but the safety valve frequently is open then;
Filtering elements may be blocked.
Filtering elements may be wet.
Filtering elements may be oily.
Cleaning air pressure may be low.
Cleaning pulse cycle may be less than 10 seconds, and the second pulse occurs before tank is full.
No energy.
No cleaning air.

PROBLEM	POSSIBLE CAUSE-SOLUTION
Filtering elements over blocked	Check compressed air supply and pressure level Check electronic card and correct adjustment Check solenoid valve & coils
Dust and lumps under the cap and body on the dust collector	Check if filtering elements are damaged Check the seals on body Check if filtering elements & frame are properly located

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3.
SPARE PARTS CATALOGUE

If you require spares for your unit, please contact the manufacturer and it is necessary to inform all data such as serial number, type, etc. which are written on the machine's plate. Do not use non-original parts.

CONTROL BOARD	
Code	
FRSJ71213100	

FILTER ELEMENT			
Code	**Diameter (in)**	**H (in)**	
FE.C.S.115.0500.ST (FESK115ST) Cartridge	Ø 4.53	20	

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