AUTOMATIC PLANTS FOR CONTINUOUS POWDER DILUTION

SERIES
PK
PL

TRANSLATION OF ORIGINAL INSTRUCTIONS

ATTENTION: Industrial machinery not intended for use by non-professional operators. These instructions are intended for qualified personnel.

POLISOL SERIES

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OBL JOB N.					
CLIENT					
CLIENT ORDER N.					
METERING PUMP					
AUGER TYPE					
ANNEXES					
ITEM/S					
SERIAL NUMBER/S					

OPERATING MANUAL

CE

English

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ENGLISH

EN

TABLE OF CONTENTS

1. INTRODUCTION

The machines covered by the following "instructions" are **intended for operation in industrial areas** and therefore cannot be treated as products for retail (consumer).

This document therefore contains information to be used by qualified personnel only.

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They must also be integrated by laws and technical regulations in force and do not replace any plant regulation provisions or any additional requirements, either legislative or non, which have been issued for safety purposes**.**

1.1 RECEIVING INSPECTION

All material relative to supply is delivered to the shipper in perfect condition after thorough final testing and packaging (where applicable). Inspect goods immediately upon receipt and check that:

- the goods received correspond to the order made
- packaging (where applicable) has not undergone damage due to transport or has not been tampered with

If the packaging is damaged or tampered with, immediately check (quantity, quality and form):

- actual conditions of goods
- presence of all accessories or spare parts

ATTENTION: Should anomalies or damage be found IMMEDIATELY ISSUE A COMPLAINT WITH THE COURIER and inform OBL as well. We suggest contacting OBL customer support before commissioning.

1.2 SUPPLY CONDITIONS

All plants are supplied as follows:

- ready to be installed as specified in the job order
- pre-tested in accordance with internal specifications
- pre-painted (where applicable)
- already equipped with lubricant (where applicable)

1.3 NOTES ON ELECTROMAGNETIC COMPATIBILITY

If installed properly and **with direct power supply from the mains**, POLISOL plants comply with emission limits set by regulations relating to electromagnetic compatibility (EMC - General requirements for industrial environments).

1.4 USE IN POTENTIALLY EXPLOSIVE AREAS

POLISOL plants are NOT SUITABLE for use in potentially explosive areas !

2. GENERAL INFORMATION

The purpose of these instructions is to refer information deemed necessary for understanding as much as possible about and facilitating the installation, commissioning, use and maintenance of **PL-PK series emulsion dilution plants, hereafter called, for short, POLISOL.**

Although the **POLISOL** range includes different models and numerous variants (see "Identifying code" and "Technical data"), the technical information contained in this instructions manual **are equally appropriate and applicable** except where expressly stated) "**PL" or "PK" in its code.**

OBL reserves the right to modify the characteristics of its products at any time to apply the latest technological innovations. The information contained in this document is therefore subject to change without notice.

PERSONNEL RESPONSIBLE FOR OPERATING THE PLANT

Personnel must be professionally employed in the sector and suitably trained and must have read and understood the instructions in this manual. The employer must instruct all staff on the risks of accidents and on devices and clothing to be used for individual safety, on the risks arising from noise emission and on general provisions laid down by European Directives and legislation in the country of machine installation.

2.1.1 "Operator" personnel

The term "Operator" is intended as personnel that carries out the following tasks on the machine:

- performs the functions needed for operation
- operates regulation and operation controls
- performs simple actions related to operation
- performs any cleaning and daily inspection operations
- reports machine defects or malfunctions

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The operator must work on the machine while protective guards are mounted and safety devices on

2.1.2 "Mechanical Maintenance" personnel

Intended as personnel that operates on the machine in all operating conditions and at all protection levels.

Performs all types of repairs or mechanical adjustments but does not work on electrical installations.

2.1.3 "Electrical Maintenance" personnel

Intended as personnel that operates on the machine in all operating conditions and at all protection levels.

Performs all types of repairs or mechanical adjustments, even in the presence of voltage.

INSPECTION AND GUARANTEE

2.1.4 Inspection

All OBL plants are reliable, quality products which have been subject to careful end inspection to ensure proper operation and to ascertain compliance with specified performance. The results of these end inspections are registered in special forms and made available to the Client.

2.1.5 Guarantee

POLISOL plants, as with all other OBL products, are guaranteed for a period of twelve (12) months of operation but in any case no longer than eighteen (18) months from the delivery date on the transportation document (DDT.).

The guarantee covers the replacement, free of charge and ex-works in Segrate - MILANO - ITALY, of any component found to be defective in material or processing by the OBL technical office.

The guarantee IS NOT VALID in the following cases:

- components subject to normal wear (i.e. fittings)
- whenever installation or use does not comply with the technical conditions of sale and instructions;
- if the plant has been tampered with or dismantled;
- if the plant is sold to third parties.

ATTENTION: Do not disassemble or attempt to repair products still covered by guarantee, as doing so will void the guarantee. Always contact OBL customer support for information.

In the case of a guarantee claim, the machine must be sent postage paid to the OBL Segrate (MI) factory, accompanied by a description of the alleged anomaly.

For safety reasons, BEFORE shipping, the sender must **ALWAYS contact** customer support OBL (Tel. +39-02-26919.1, serviceobl@idexcorp.com and operate as indicated in point "Provisions for goods returned to OBL".

INSTRUCTIONS FOR REQUESTING SPARE PARTS

Procure and study the sectional drawing of the plant in use; request a copy from OBL if necessary. Analyse the conditions and identify the worn out or damaged components. Using the nomenclature of the sectional drawing, make a list of those components (cite the number of the sectional drawing and the position of the component) and send to the OBL Sales Office, always specifying:

- the type of plant (complete code)
- machine serial number
- OBL job number (in place of the serial number)

NOTE: This information is contained on the plant's data plate.

2.1.6 Spare parts

Standard components (screws, nuts, bearings, etc.) are also available directly from specialised dealers. **Use only original OBL spare parts to replace all other components.**

2.1.7 Changes and manufacturing of spare parts without approval

OBL does not allow any changes. Original OBL spare parts and accessories are essential in maintaining compliance with safety regulations. The use of other parts will void the guarantee and any liability for consequences resulting from this action.

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EXCLUSION OF LIABILITY

OBL is not able to monitor compliance with and enforcement of the provisions contained herein or the actual conditions and methods of installation, operation, use and maintenance of machinery and accessories.
Installation which has been performed incorrectly or misuse may cause serious damage and may pose a danger to persons or property.
Any anomalies must be reported to the maintenance supervisor. The user is not authorised to tamper with the machine for any reason.

Attempts to disassemble, modify or tamper in general by unauthorised personnel will void the guarantee and will release OBL from any liability for damage to persons or property resulting from such actions.

OBL is considered released from any liability in the following cases:

- improper installation;
- improper use of the machine by non-professional or inadequately trained operators;
- use not in compliance with regulations in the Country of use
- lack of maintenance or improperly performed maintenance;
- use of non-original spare parts or parts which are not correct for the model in question;
- total or partial failure to observe instructions
- exceptional environmental events

RESTRICTIONS ON THIS DOCUMENT

This document is property of OBL S.r.l. together with the technical information contained in it. Modification, reproduction or copying (in whole or in part) of it without written permission is prohibited. Violations will be prosecuted by law.

3. SAFETY WARNINGS

POLISOL PLANTS ARE INDUSTRIAL MACHINERY NOT INTENDED FOR USE BY NON-PROFESSIONAL OPERATORS. THESE INSTRUCTIONS ARE INTENDED FOR QUALIFIED PERSONNEL.

FULLY AND CAREFULLY study these instructions before installing and starting the plant. Failure to respect safety recommendations can damage the machine or compromise its operation.

Comply with this information for proper management and maintenance. It is of key importance that these are read by the installer and the maintenance supervisor. This document should be stored near the machine in a safe, dry place, and in any case made easily and readily available for future reference.

Keep instructions relating directly to the equipment in good and readable condition (replace as necessary).

- Machine data plate
- Arrow indicating the motor direction of rotation
- Warning and service information adhesives

SYMBOLS AND SUGGESTIONS IN THESE INSTRUCTIONS

This symbol indicates important information for preventing faults and/or damages to equipment or personnel.

This symbol indicates danger due to the presence of electricity.

This symbol indicates a danger that may cause an explosion.

HAZARD

POLISOL plants are machines that have dangerous parts. Therefore:

- **improper use**
- **tampering**
- **removal of guards or disconnection of protective devices**
- **inadequate inspection or maintenance**

CAN CAUSE SERIOUS DAMAGE TO PERSONS OR PROPERTY.

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In particular, personnel must be informed of hazards deriving from:

 - **live parts**

 - **rotating or moving parts**

 - **hot surfaces**

The safety supervisor must ensure and guarantee that:

- the machine is handled, installed, commissioned, inspected, maintained and repaired **by qualified personnel only,** who therefore possess:
- specific technical training
- knowledge of technical regulations and applicable laws
- knowledge of general, national, local and plant safety requirements
- an ability to recognise and avoid all possible hazards

Failure to follow these guidelines, negligence or an incorrect or improper use of the machine by unauthorised and unqualified personnel may cause risk to persons or property, resulting in cancellation of the guarantee by OBL.

 **The safety of these machines can be compromised if they are used improperly or tampered with.**

The plant must be used only if it is in perfect technical condition, also considering aspects regarding safety and danger. The smooth operation of these machines, their durability and operating efficiency depend on the observance of these details. We disclaim all responsibility for bodily injury or property damage caused by improper use of our equipment.

PERSONAL PROTECTIVE EQUIPMENT

Any operation on the machine must be undertaken in compliance with safety regulations and safety warnings.

The safety supervisor must ensure compliance with applicable laws and safety regulations enacted for safety, and monitor that all personnel are equipped and always use appropriate personal protective equipment.

 **Appropriate personal safety devices must always be used to ensure and safeguard the personal safety of personnel, who must also be properly trained and professionally qualified.**

ADDITIONAL NOTE FOR ATEX AREAS

 **ATTENTION: The plants for diluting emulsions are <u>NOT SUITABLE</u> for use in potentially explosive areas!**

SUITABILITY VERIFICATION FOR EFFECTIVE APPLICATION/USE

All plants are supplied in compliance with requirements established during technical/sales negotiations and defined in the order.

 **<u>NOTE:</u> The client (user and/or installer) is responsible for checking, before installation and subsequent start-up, that the plant is actually used in the set dosing range.**

4. <u>TRANSPORT, HANDLING AND STORAGE</u>

TRANSPORT, LIFTING AND HANDLING

 **OBL ensures the integrity of the plant only if transported in its original packaging**

Before transporting or handling the plant, follow the operations below:

-Check the weight of the plant

-Check, based on the overall dimensional drawings attached to this manual, the general overall dimensions of the unit

-Identify the lifting points.

The plant is equipped with feet to allow easy handling for short stretches by using a hand pallet truck.

Accidental tipping of the transport crate may cause serious injuries to persons or damage to property. Be very careful when handling the plant and keep it outside of the operating range of machinery!

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STORAGE CONDITIONS

Machinery that is not used immediately must be stored inside its original packaging, in a closed, dry, clean environment protected from weather conditions and at a temperature ranging between +5°C and 40°C.

Do not stack, for any reason whatsoever, packaging; this manoeuvre can cause damages to the underlying machine and tipping over or falls that could cause serious accidents.

Ensure that access of unauthorised persons is not allowed in the storage area.

DIMENSIONS AND WEIGHTS

Check the dimensions and overall gross weight of the package before handling or lifting it.

Unless otherwise agreed, the packaging bears such information (dimensions are expressed in millimetres and weight in kg).

5. DESCRIPTION

POLISOL plants are machines that have been specifically designed for diluting, maturing, and the temporary storage of powdered polyelectrolyte solutions (it is also possible to dilute other types of powders if agreed upon with the sales office and properly sized - refer to the specific documentation)

A hopper **(2)** -auger **(3)** system provides for the storage and delivering of the powder to the diluting point, where it meets pressurised water from the supply system **(1)**.

The emulsion- water mixture is delivered to the first compartment of the tank **(4)** which has a slow agitator **(5)** that keeps the liquid moving in order to ensure consistency and prevent it from coagulation or possible settling.

Once the first compartment is full, the product obtained passes to the next compartment, by means of siphons, which has (if present) an additional agitator that continues to hold and permits maturation of the mixture.

Finally, the product is removed using pumps (not necessarily supplied by OBL) and transferred in the process.

The cycle is made fully automatic thanks to the level sensor **(6)** installed in the last compartment: upon reaching the maximum level, the plant stops automatically, and starts operating again when the level lowers until it is filled again.

The correct operation and state of the entire system is constantly monitored by the electrical control panel **(7)**.

The general sectional drawing is shown below:

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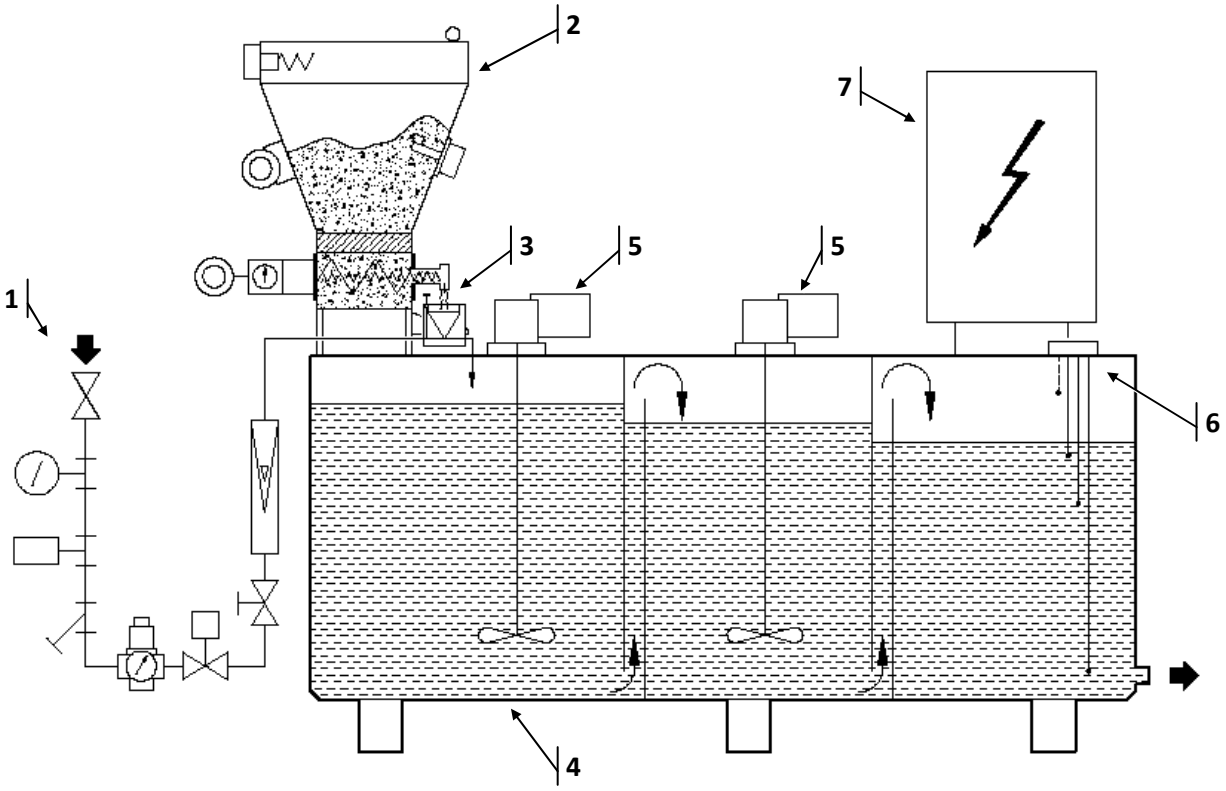
Fig.1:

Sectional drawing of POLISOL Plant



1 = Water supply system
2 = Hopper
3 = Diluting system
4 = Tank
5 = Agitator
6 = Level sensor
7 = Electrical control panel

LOADING HOPPER

Made of AISI 304 L and supplied with anti-condensation resistance that provides the powder with protection against humidity.
The hopper is also equipped with:

- **Reclosable cover**

  The cover must only be opened for powder loading and be closed immediately upon conclusion of the operation. Leaving the cover open during normal operation means allowing the entry of moisture and foreign objects that can cause serious damage to the system.

- **Metal guard**

  The metal guard has been designed to allow easy insertion of powder and prevent the accidental fall of objects inside.

⚠ **The removal of this grille by unqualified personnel or the use of the plant without this door will cause the immediate revocation of the guarantee and its conformity with the EC Directive.**

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- **Metal guard**
  The anti-condensation resistance ensures a humidity-free environment inside the hopper, without affecting the properties of the powder. For this reason, **it is important that it remains powered,** as described on the sticker on the hopper. This is why it is important NOT TO STOP the plant via the main switch on the panel. Use the STOP button

ATTENTION! The anti-condensation resistance is powered directly by the main electrical control panel. All operations must be performed by qualified technical personnel only, as described in paragraph **2.1**

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5.1.1 IDENTIFICATION PLATE DATA

Each plant bears a nameplate for identification. Below is a representation of an example and its position:

Fig. 2*: Plant identification plate:*

Fig.3*: Location of plate on the plant*

1 = Pump serial number
2 = OBL Job Number (Order Confirmation)
3 = Item (if available)
4 = Year of construction
5 = Plant identification code
6 = Maximum hourly output (l/h)
7 = Solution concentration
8 = Auger diameter (mm)
9 = Auger RPM (min and max)
10 = MINIMUM pressure required (Bar)
11 = Supply voltage (V)
12 = Frequency (Hz)
13 = Total power (kW)
14= Maximum short circuit current

Ensure that the machinery data plate, warning and service stickers are always present and in good, legible conditions. If not, replace them.

Removal of the data plate or alteration of data contained therein is NOT permitted for any reason.

5.2 IDENTIFYING CODE

POLISOL plants are identified by a code as follows:

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P K A 850 Q

POLISOL plant identification code

Plant construction materials:
...**K**... for tanks made of polypropylene plastic
...**L**... for tanks made of AISI 304 L type metal

Plant Version:
...**A**... 1 agitator- two compartments- concentration up to 0.3%
...**B**... 2 agitators- two compartments- concentration up to 0.3%
...**M**... 1 agitator- two compartments- concentration up to 0.5%
...**N**... 2 agitators- two compartments- concentration up to 0.5%
...**F**... 2 agitators- three compartments- concentration up to 0.3%
...**T**... 3 agitators- three compartments- concentration up to 0.3%
...**C**... 2 agitators- three compartments- concentration up to 0.5%
...**R**... 3 agitators- three compartments- concentration up to 0.5%

Plant size (volumes expressed in litres):
...**450**...
...**850**...
...**1700**...
...**2800**...
...**4000**...
...**5500** only for tanks made of AISI 304 L type metal
...**7500** only for tanks made of AISI 304 L type metal
...**10000** only for tanks made of AISI 304 L type metal

Electric panel:
...**Q** for plants with electrical control panel
...**JB** for plants with junction box (NO electric panel)

ENVIRONMENTAL AND DESIGN TEMPERATURE

Unless otherwise agreed upon with the client, the ambient design temperature (Ta) of the plant ranges between:

+5°C ⩽ **Ta** ⩽ **+40°C:** Standard temperature range for all types of powder dilution plants.

NOTE: in any case, machinery must always operate in areas protected from weathering and external agents, in a closed and dry environment.

OPERATING PRINCIPLE

The purpose of the POLISOL plant is to mix powders (generally polyelectrolyte) with water to obtain a solution with a certain concentration as required.

This mixing occurs as described in point **(6),** , where the water line **(1)** meets the powder line **(2)**.

This mixture is then delivered to the tank **(4),** where it is kept constantly in motion by the agitators **(5)**.

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Fig.4: *Operating principle*

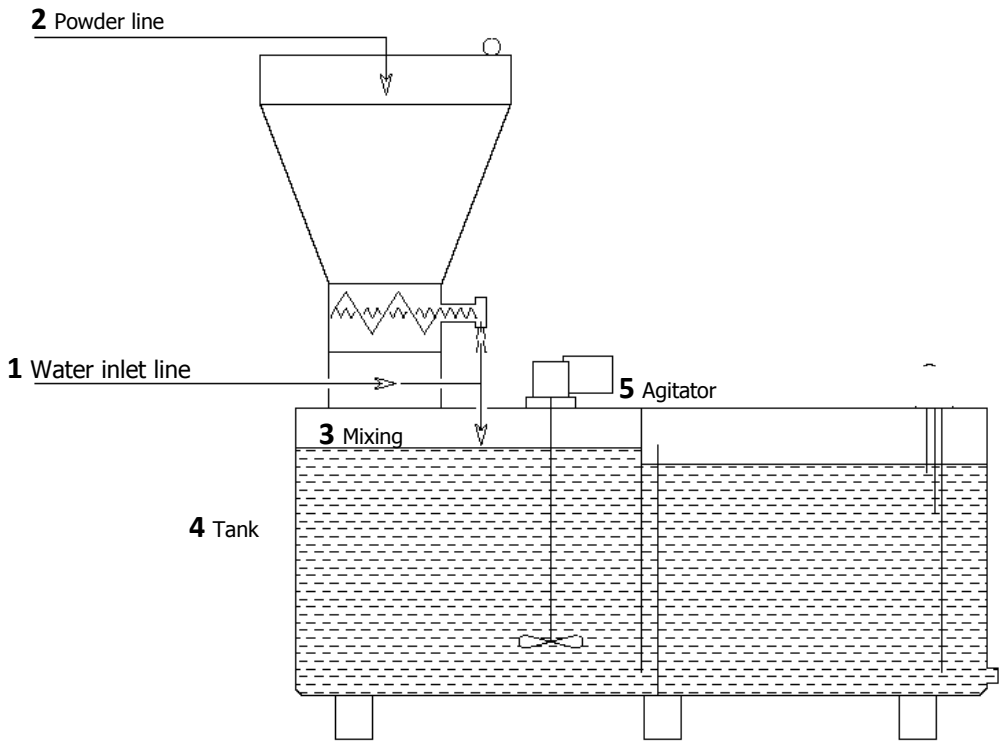
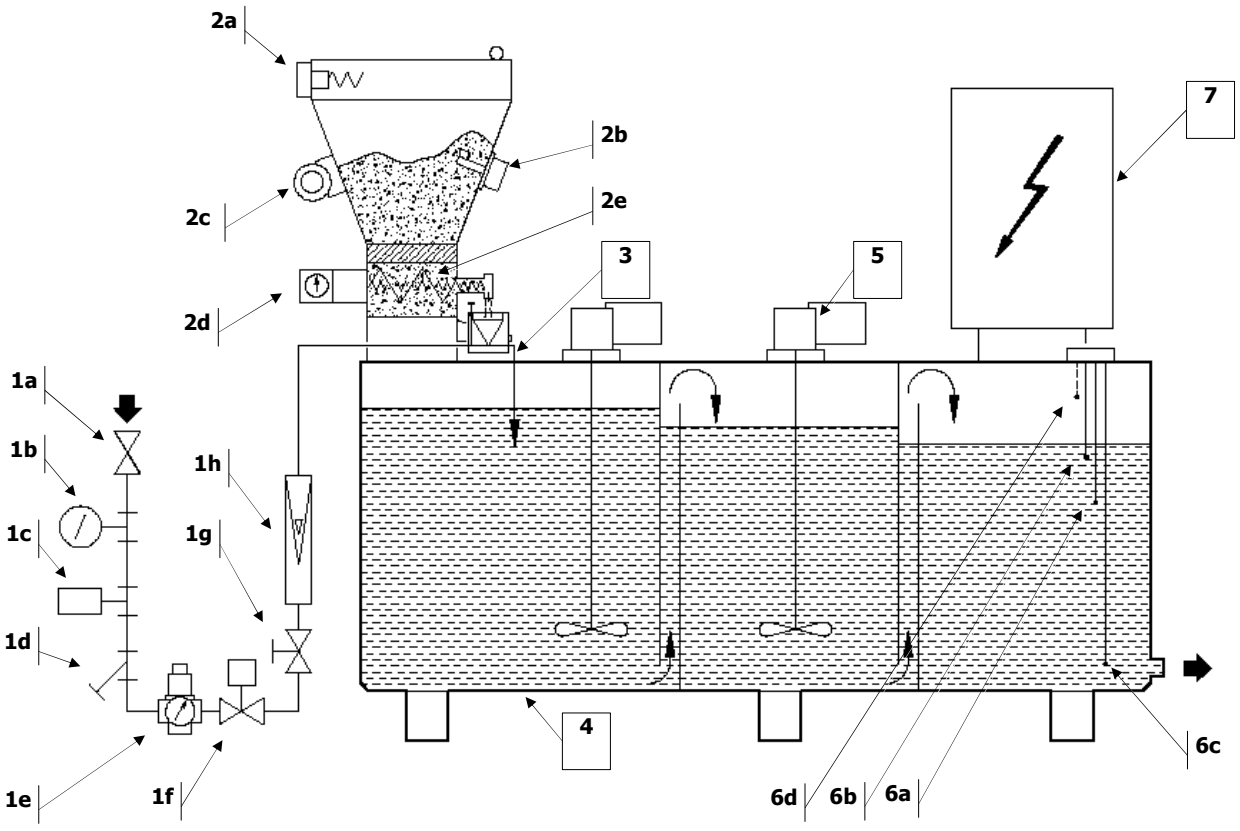


Fig.5: *Detailed diagram of the POLISOL Plant*



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1- WATER SUPPLY LINE

The function of this assembly of components is to allow the required water flow at the necessary pressure to reach the mixer.

It consists of the following components:

a) **Shut off valve** for water inlet
b) **Pressure gauge** for VISUAL inspection of network line pressure
c) **Pressure switch** for ELECTRONIC control of network pressure
d) **Water filter**
e) **Pressure regulator** to stabilize water pressure to the necessary values
f) **Solenoid valve** for electronic management of water flow
g) **Gate valve** for water flow rate adjustments
h) **Flow meter** for reading water flow

⚠ **ATTENTION: do not change calibration of the instruments in any way! In the event of malfunctions, contact technical assistance for information!**

2- HOPPER

The hopper is the point where the powdered polyelectrolyte is stored and dosed before being mixed with water.

It is always made of steel, regardless of the tank material, and is composed of:

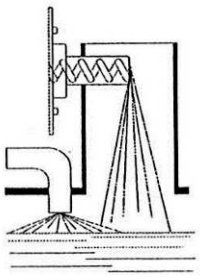
a) **Anti-condensation resistance**
b) **Powder level sensor**
c) **Vibrator**
d) **Auger RPM variator**
e) **Powder dosing auger**

3- DILUTING SYSTEM

POLISOL plants can be supplied with two different diluting systems.

- Diluting by means of a sprayer nozzle (minimum required network water pressure 1.5 bar g)
- Diluting by means of a pre-diluting funnel (minimum required network water pressure 2.5 bar g)

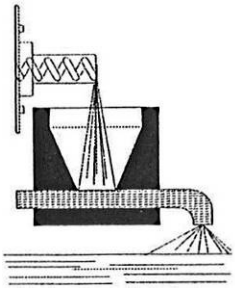
SPRAYER NOZZLE



In this dilution, water from the supply system is dispersed in a sort of "blade" through a spray nozzle.
The transferred dosed powder falls directly into the first compartment above the water blade and is therefore pre-diluted before entering into the water.
The maximum concentration is 0.3% with polyelectrolyte powders.

⚠ **ATTENTION!** OBL is not liable wherever the system is modified to achieve higher concentrations.

PRE-DILUTING FUNNEL



With the pre-diluting funnel, water from the supply system goes through a system that sub-divides into 2 channels: one part passes through a nozzles that increases speed to form a Venturi effect; the other transfers a part to the top of the funnel, into which it falls, first meeting the powder and then a powerful water jet that further dilutes even before falling into the first compartment, ensuring excellent dilution up to maximum concentrations of 0.5%.

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ATTENTION! The funnel is supplied appropriately adjusted; in any event, if necessary, pay particular attention to the instructions for setting the maximum vortex level contained on the following sticker (also present on the plant itself)

Fig.6: *Water cone adjustment sticker*

ATTENTION! In both cases, DO NOT MODIFY instrument calibration in any way.
If necessary, verify the presence of sufficient network water pressure; check and, if necessary, **ONLY** adjust the height of the water reel inside the funnel.

4- TANK

The holding and maturation tank is comprised of 2 or 3 compartments connected by means of siphons.
Once delivered to the tank, the solution from the diluting system is constantly mixed by the agitators in an optimal manner to permit it to keep while awaiting removal.

5- AGITATOR

A slow type agitator is installed in the tank and has large blades to allow a constant overall mixing that does not change the properties of the product.

6- LEVEL SENSOR

The level sensor installed in the last compartment controls the solenoid valve and the auger motor. In detail, it consists of 3 main rods and one optional:

- **a)** Starts the auger motor **2e** and opens the solenoid valve **1f**
- **b)** Stops the auger motor **2e** and closes the solenoid valve **1f**
- **c)** Emits a SPDT signal in order to signal plant malfunction due to lack of product
- **d)** **OPTIONALLY** a MAX-MIN sensor is available to warn when going over the maximum level.

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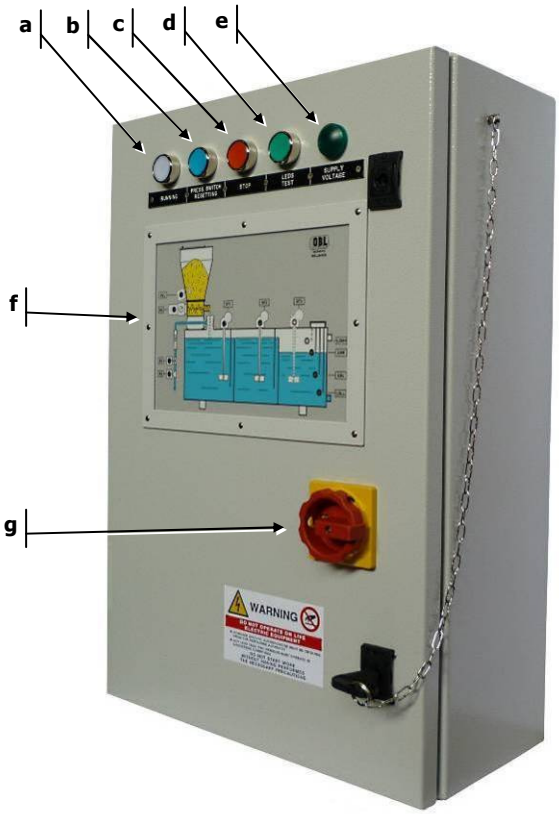
7- ELECTRIC PANEL

The electric panel manages the entire plant. The front has a diagram showing the main functions:

Fig.7: *Electric panel:*

a: start
b: reset / pressure switch reset
c: stop
d: lights test
e: power supply indicator
f: mimic panel
g: main switch



a: Start button: starts up the plant

b: Reset/ pressure switch reset: resets the pressure switch (Pos. 1c in Fig.5), thus allowing operations to be restored after a block.

c: Stop: stops the plant instantaneously.

d: Lights test: this switch turns on **all** the lights on the mimic panel, regardless if the sensor is actually present. It is used to check the integrity of the visual warning system of the control panel.

e: Power supply indicator: Signals to the user that the control panel has power supply. When this light is on, the plant can be started using the start button.

f: Mimic panel: The mimic panel on the electric panel makes it possible to have a quick overview on all machine functions.

Every light on refers to the actual functioning of the part indicated. Further information on this panel is included in the next section.

g: Main switch: allows the power supply to reach the panel. When this switch is in the "on" position, the light and (power supply indicator), must be lit.

ATTENTION: The electric panel must be powered only with the voltages envisioned during the technical-commercial negotiations !
Voltages other than those envisioned may cause permanent damage and may cause serious injuries!!

Based on the customer's requests during the technical-commercial negotiations, the code of the panel may change, thus resulting in the creation of a code similar to the one below:

01Q .4. 0 0 0 0 . 0 0 0 0

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Plant Identification:
…**01Q**… PLC 850-1700
…**02Q**… PLF 2800
…**03Q**… PKC 4000-5500
…**035Q**… PKF 7500
…**04Q**… PLR 850-1700
…**05Q**… PLT 2800
…**06Q**… PKR 4000-5500
…**07Q**… PKT 7500-10000
…**08Q**… PLA-PLM 450-850
…**09Q**… PKA-PKM 1700
…**10Q**… PLB-PLN 450-850
…**11Q**… PKM-PKN 1700

Materials and components identification list:
…**4**… SIEMENS Components.

Accessory Codes:
…**A**… Minimum powder level alarm sensor
…**B**… Vibrator
…**C**… Maximum powder level alarm
…**D**… Pneumatic loading (including low powder level alarm)
…**E**… 485 serial port
…**G**… 1 supplementary motor with power to specify
…**H**… 2 supplementary motors with power to specify
…**I**… 3 supplementary motors with power to specify
…**L**… Cumulative SPDT failure in addition to the other alarms
…**N**… Second auger resistance (on cap)
…**P**… Second auger resistance (on output flange)
…**Q**… Serial port 485 with plant viewer and remote control
…**R**… Local or remote actuation

Non standard motor power
…**0**… Standard
…**B**… Auger 0.37 kW Auger
…**C**… Agitators 0.37 kW
…**E**… Solenoid valve 48 V c.a.
…**G**… Metering pump 0.30 kW
…**I**… Agitators 1.1 kW
…**M**… Auger motor + fan controlled by external switch

Panel box types:
…**0**… Standard metallic 400x600x200 IP 55
…**1**… Metallic 500x700x200 IP 55
…**2**… Polyester with transparent door 500x650x250 IP 65
…**3**… Metallic with transparent door 500x700x250 IP 65
…**4**… Stainless steel with transparent door 500x700x250 IP 66
…**6**… Steel metal 500x700x250 IP 55

Power supply voltage:
…**00**… Standard 400V/3/50-60 Hz
…**01**… Special 440V/3/50-60 Hz
…**02**… Special 480V/3/50-60 Hz
…**03**… Special 200V/3/50-60 Hz
…**05**… Special 500V/3/50-60 Hz
…**06**… Special 415V/3/50-60 Hz
…**07**… Special 460V/3/50-60 Hz
…**08**… Special 220V/3/50-60 Hz
…**08**… Special 380V/3/50-60 Hz
…**09**… Special 690V/3/50-60 Hz

MIMIC PANEL:

The mimic panel is a panel designed to permit an instant overview of all plant functions. Each light that is on reports **THE FUNCTIONING** of the part involved. This panel can be used to control the entire process, checking if the lights actually turn on in the right sequence, and the start of each component present.

ATTENTION: As this is a universal version panel, some items on the panel are NOT ON the POLISOL plant, and therefore those lights never turn on.

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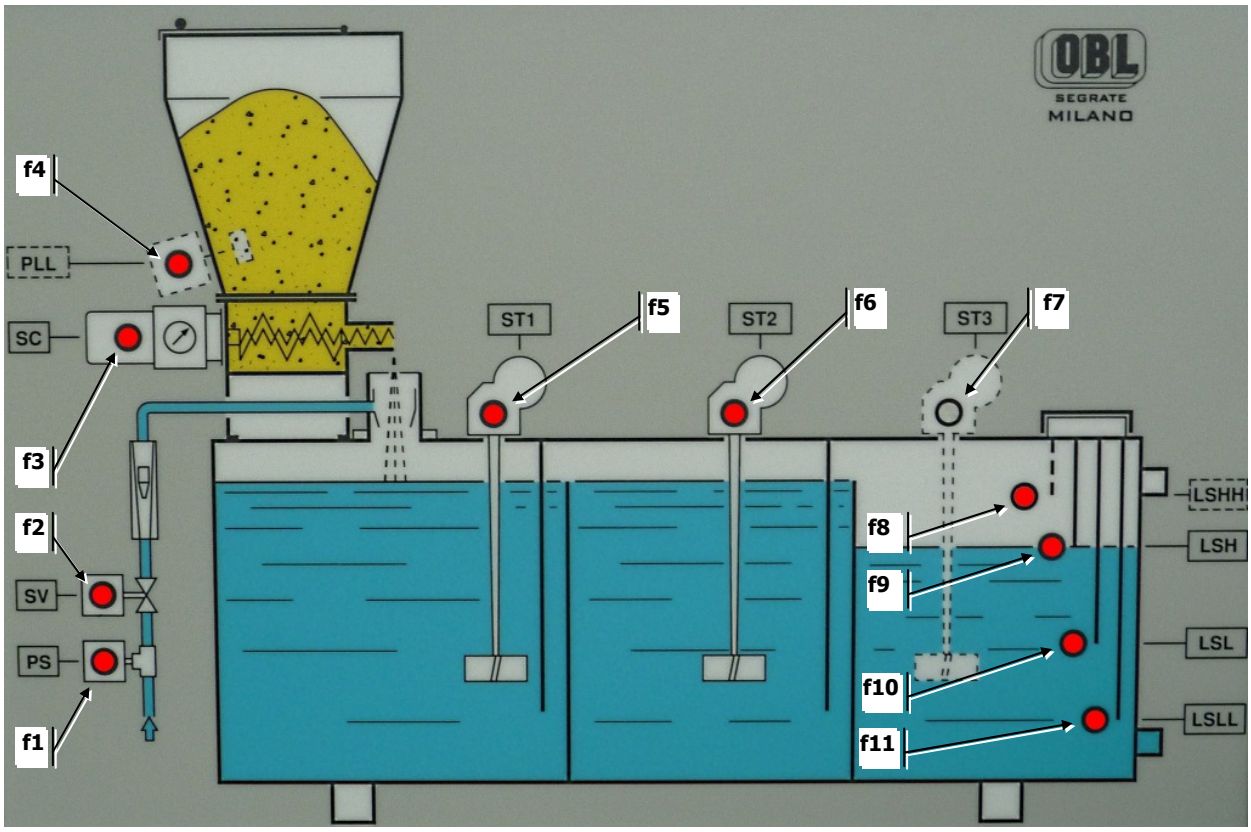
Fig.8: *Mimic panel:*



f1: Pressure switch
f2: Solenoid valve
f3: Auger motovariator
f4: Powder level sensor
f5: 1st compartment agitator
f6: 2nd compartment agitator (only on certain versions)
f7: 3rd compartment agitator (only on certain versions)
f8: Max-Max solution level ALARM sensor (**OPTIONAL**)
f9: Max solution level sensor
f10: Minimum solution level sensor
f11: Minimum solution level ALARM sensor

6. INTENDED USE

POLISOL plants are intended for diluting powders (generally polyelectrolyte powders) at room temperature (see "Ambient and design temperature"), and are suitable for continuous use (24/24 working hours). They can be used for the following applications:

- Industrial wastewater clarification;
- Sludge treatment, Filter presses, Belt-presses;
- Centrifuges, Potabilization plant;
- Pulp and paper industry, Ceramic industry, Tanning industry

EN

Any other use is considered "IMPROPER USE" and is not allowed. OBL OBL declines all responsibility for any damage to persons or property and any kind of machine guarantee shall be considered void.

REASONABLY EXPECTED IMPROPER USE

It is improper to use POLISOL plants as follows:

- for metering products other than those established during technical/sales negotiation and defined in the order
- in a corrosive and stagnant environment, closed in a poorly-ventilated location

NOTE: The customer is responsible for checking that the plant is suitable for application/use before installation and start-up. If in doubt, do not improvise but contact OBL customer support.

PROHIBITED USE

It is prohibited to use POLISOL plants as follows:

- in mining plants (underground)

IS PROHIBITED use the plant without protective covers or with safety devices tampered with or damaged

POLISOL plants are NOT SUITABLE for use in potentially explosive areas (ATEX areas) !

NOISE

The table below shows the average noise level (lp noise pressure level) emitted by POLISOL plants, used within the limits of use and installed in accordance with the instructions contained in the present operating manual.

These average values were detected on the prototype at a distance of 1 metre from the surface of the machine, at a height of 1,5 meters from the working surface and weighted according to curve A.

METALLIC MATERIAL TANK		PLASTIC MATERIAL TANK	
Plant size (volume in liters)	**Noise pressure level (lp)**	**Plant size (volume in liters)**	**Noise pressure level (lp)**
450 - 850	< 75 dB(A)	450 - 850	< 75 dB(A)
1700 - 2800	< 75 dB(A)	1700 - 2800	< 75 dB(A)
4000	< 75 dB(A)	4000	< 75 dB(A)
5500	< 75 dB(A)	5500	< 75 dB(A)
7500 - 10000	< 75 dB(A)	7500 - 10000	< 75 dB(A)

The employer must implement in the workplace, appropriate technical measures to minimise the risks arising from daily noise exposure and as much as is necessary to ensure and safeguard the health of personnel in the working environment.

VIBRATIONS

POLISOL plants do not fall into the category of direct human contact machines. Vibrations produced are not significant when installed in accordance with these instructions.

TECHNICAL DATA

Given the wide range of possibilities to customize the plants, the specific technical data of each POLISOL plant are included in the data sheet attached to the documentation. The data sheet includes all the most important technical data of the plant, concerning both electric and mechanic data.

It is important to take special care of the set of attached documents, as without these documents it could be difficult to find several types of information about the plant.

CONCENTRATION ADJUSTMENT SYSTEM

INTRODUCTION: The dilution water has a constant flow rate; the powder has an adjustable flow rate.

The POLISOL plant is designed to produce solutions within a well defined range of concentration.

To obtain the concentration desired it is crucial that the water flow remains constant. **It is important to only make adjustments using the powder regulation knob (2d)**

EN

7. INSTALLATION AND COMMISSIONING

7.1 INSTRUCTIONS FOR PROPER INSTALLATION

POLISOL plants are delivered ready to use; however you must follow several rules during installation and commissioning for perfect operation of the machine; the plant should be installed in a protected environment, and all precautions previously described in this manual must be complied with. Once you are certain of the above conditions, check the following:

- **Slope of the surface under the plant:** This plant is divided into segments that are connected together. For correct operation of the plant the slope of the surface where the plant will be installed must be less than **one degree (1°)**. This surface must be strong enough to withstand the situation over time.
- **Discharge pipe connection:** The customer will have to provide for connecting pipes for draining and discharging any excess solution with its own discharge and recovery system, in accordance with laws on the type of solution processed.
- Connection to the mains: Before commissioning, the electrical control panel must be connected to the mains. Check and make sure that the supply voltage is correct BEFORE making connections to the plant.

Attention: Incorrect voltage may cause injuries and permanent damages to the equipment!

- **Connection to the water supply network:** Based on hourly production rate envisioned for the plant, the minimum flow rate required by the water supply network may vary, according to the following table:

PKC-PKR-PKT-PKF PLC-PLR-PLT-PLF	*MINIMUM SUPPLY FLOW REQUIRED (l/h)*	*INLET FITTING (bspf)*
850	**1.500**	**¾″**
1700	**1.700**	**¾″**
2800	**2.800**	**1″**
4000	**4.000**	**1 ½″**
5500	**5.500**	**1 ½″**
7500	**8.000**	**1 ½″**
10000	**10.000**	**2″**

PKA –PKB PLA-PLB	*MINIMUM SUPPLY FLOW REQUIRED (l/h)*	*INLET FITTING (bspf)*
450	**1.000**	**¾″**
850	**1.000**	**¾″**
1700	**1.800**	**¾″**

PKM –PKN PLM-PLN	*MINIMUM SUPPLY FLOW REQUIRED (l/h)*	*INLET FITTING (bspf)*
450	**1.500**	**¾″**
850	**1.500**	**¾″**
1700	**1.700**	**¾″**

In addition, plants made of PLASTIC material also require:

- adequate protection from direct sunlight to avoid thermal deformation of the tank.
- controls and/or periodic adjustments of fastening bolts of the pump and accessories.
- periodic temperature checks of the dosed liquid
- periodic verification of absence of product leaks from pump connections or system pipes.

EN

7.2 Check project data

Make sure that the plant is suitable for operation in the actual operating conditions by checking the following:

7.2.1 Environmental conditions

8. ENVIRONMENTAL TEMPERATURE: VERIFY THAT THE ACTUAL ROOM TEMPERATURE IS CONSISTENT WITH PUMP CHARACTERISTICS

9. EXPOSURE TO WEATHERING: THE PLANT MUST BE PROTECTED FROM WEATHER CONDITIONS AND EXTERNAL AGENTS THAT MAY REDUCE THE USEFUL LIFE OF THE MACHINE CONSIDERABLY.

9.1.1 Installation conditions

a) plant installation and operation should only be performed under the conditions described in the order.

Operating conditions differing from normal conditions must always be defined when placing an order, to prevent the pump from operating in conditions which may affect correct operations and safety.

START-UP

9.1.2 Checks before start-up

Check the following before starting up the plant:

a) Proper connection to the water mains for water supply, the electrical connection for the control panel and the drainage connection for overflows and draining.

b) Feed-water is free from solids, and pH neutral.

c) that powder to be diluted is in perfect condition (dry, not crystallized and even)

d) that it is protected from agents such as: sand, corrosive substances, dust and/or fibre, mechanical stress and vibrations

e) mechanical protections: indoor installation protected against the damaging effects of weathering, the combined influence of temperature, humidity and condensation.

9.1.3 START-UP:

Depending on concentrations, to start the plant, proceed as follows:

Maximum concentrations less than or equal to 0.3%

-Open the shut-off valve **1a** on the water supply circuit.

-Power up the control panel **7.**

-Activate the **PM** switch on the control panel.

-Wait until the diluting water level has reached the agitator blades

- Now load powder to be diluted

Maximum concentrations over 0.3% and up to 0.5%

-Open the shut-off valve **1a** on the water supply circuit.

-Power up the control panel **7.**

-Activate the **PM** switch on the control panel.

- Make sure the water level inside the diluting funnel is correct (otherwise adjust according to the instructions on page 14)
- Now load powder to be diluted and ensure that it falls correctly inside the pre-diluting funnel

The plant has already been tested and is therefore ready to operate. **However, we recommend that you check the water flow rate using the flow meter 1h.**

Each model has an ideal water flow rate indicated by a red arrow located on the flow meter **1h**. The flow, if the value is not the same as that indicated by the arrow, can be adjusted by means of the gate valve **1g** located before the flow meter.

EN

9.1.4 Adjusting concentration

-Insert the powder in the loading hopper.

The plant has been designed and constructed to produce solutions in a concentration field defined during technical-commercial negotiations and consequently the powder kilograms curve concentration/ knob position). To do this, it is absolutely essential to keep the diluting water flow constant (minimum necessary pressure) and **only make adjustments using the auger rpm regulation knob**, in order to vary the flow of powder (always keeping within the range agreed upon in the order).

ATTENTION!! Adjust auger rpms **only while the motor is running!!**

The attached concentration diagram gives purely indicative information showing the position the regulation knob should be set to in order to obtain the desired concentration.

Each powder behaves differently and thus has a different "flow" for the same type of auger (up to 40% differences between different powders). We therefore advise you to check the validity of this diagram before starting the plant in order to obtain a true concentration curve of the powder being used.

To do this, simply proceed as follows:

- For this specific check only, unscrew and remove the metal guard and the "T" protection on the auger. Set the regulation knob to a low speed position (i.e. pos. 2)
- Collect powder on a piece of cardboard for 20 seconds, weight the quantity of powder collected and, calculating the right proportions, record the flow time of the auger in the diagram
- Adjusting with the rpm variator regulation knob, increase the auger rotating speed (i.e. position 4) and repeat the operation described in the previous point
- Repeat in several other intermediate positions (i.e. 6, 8, 9) and then connect the points obtained in such a way to draw a curve that defines the true auger flow with the powder being used.
- Repeat the above whenever changing the type of powder

9.1.5 Checks during operation

Once the plant has started check the operation conditions; in particular check:

a) Proper auger operation (verifiable count of the number of rpms of the auger based on information on the data plate)

b) that there is no loss of water/product from the tank or plant pipes

c) connection to the water mains and drain.

d) Correct operation of the agitators (can be seen by looking through the inspection window on the tank).

e) Correct functioning of the solenoid valve: when filling the tank, take care that the solenoid valve **1f**actually enables; the auger motor will stop and after about 15 seconds (to prevent powder from entering into contact with the diluting water), the water flow will also stop, while the agitators will continue turning. When the level lowers, the water supply and auger motor will be restored.

9.1.6 Abnormal conditions

The plant must be used exclusively for operating conditions determined in the order. In the case of abnormal operating conditions (high current absorption, excessive surface temperature of motors, loud noise and/or vibrations) promptly notify the maintenance personnel.

OBL IS NOT LIABLE FOR DAMAGE CAUSED BY DEGENERATION BY MALFUNCTIONS NOT IMMEDIATELY RESOLVED OR REPORTED TO OBL.

9.1.7 Prolonged stops

If a prolonged period of plant stop is foreseen, take the following measures to preserve plant integrity (cleaning of chemicals, protection from weathering, etc.).

EN

10. ROUTINE MAINTENANCE

Each POLISOL is a reliable, quality product, subjected to a thorough final inspection. In case of malfunction, even if the plant has been installed and operated according to the instructions, do not improvise. Contact OBL customer service.

These maintenance suggestions are not intended as "do-it-yourself" repairs. To perform such works, specialised technical knowledge is required and operations must be performed by qualified personnel.

Interventions on electrical circuits or equipment must only be performed by qualified electricians or, under supervision, by appropriately trained personnel and in accordance with applicable electrical codes.

OPERATING PRECAUTIONS

All operations must be performed by qualified personnel.

Work on the plant must be authorised by the safety supervisor, after having determined that:

- **a)** the power mains are disconnected and there are no live parts, including and accessories
- **b)** any risk of accidental restart has been excluded
- **c)** There is no product inside the entire tank.

Since the machine to be supplied is a product designed for use in industrial areas, **additional safety measures must be adopted and ensured by the person responsible for the installation, if conditions require more restrictive protection.**

All works on the plant should be performed with the machine stopped and disconnected from the power mains (including auxiliary circuits). Maintaining original characteristics over time must be ensured by an efficient maintenance and inspection plan, developed and managed by qualified technicians, taking into account the service and the actual environmental conditions in which it operates.

CONSULTING TECHNICAL DOCUMENTATION

Before starting work, consult this use and maintenance manual, identify the exact sectional drawing of the plant in use and obtain all the tools and equipment necessary for performing works.

Incorrect assembly of moving parts may cause vibrations and malfunctions.

For information on the emulsion inflow pump please refer to the specific booklet attached to this set of documents!

PERIODIC OPERATIONS

As a general rule, after first start-up, close initial monitoring is recommended to practically define the maintenance plan and determine the frequency of general inspections and planned maintenance.

If an abnormality occurs, it is the user's responsibility to consider whether to carry out maintenance earlier.

POLISOL plants are machines able to operate, in excellent working conditions, completely automatically for long periods of time; however, it is a good idea to have it checked on a regular basis in order to prevent faults.

10.1.1 Normal operation checks

During periodic inspections, verify that:

- There are no leaks in the water supply pipes
- the filter is clean
- The water flow rate is correct (see the flow meter on the feeder panel)
- the auger and agitators operate properly, without abnormal noises or vibrations
- EC protections (accident prevention) are always mounted

EN

Any defect or irregularity detected during inspections should be promptly removed !

10.1.2 Checks of electrical connections

Power cables, control and grounding cables must not have signs of deterioration and connections must be tight.

10.1.3 Connection of system pipe connections

Check that connection units are firmly tightened and that the relative sealing elements are efficient and in perfect condition. During normal operation, the plant should not transmit vibrations to pipes which could cause component connections to loosen and product leaks, however, occasional inspections are recommended.

10.1.4 General and surface cleaning

It is a good idea to periodically perform the following operations:

a) prevent/eliminate surface deposits of material that can generate scaling

b) remove any accidental presence of product from surfaces.

c) ensure that motor fans are not obstructed. Remove any dust or fibres from the fins and the fan cover cap.

SUGGESTED SPARE PARTS

The most common faults can be solved by having the recommended spare parts in stock, thus avoiding unpleasant wastes of time.

In specific concern to the POLISOL plant, the recommended spare parts are limited to the gear box of the agitator Pos.**13**, the auger Pos.**11** and the variator, Pos **2.**

Immediate availability of these components will allow for quick and smooth interventions for the majority of the situations that may arise.

11. SPECIAL MAINTENANCE

The following guidelines cover the most common "special" maintenance features that must be performed by expert maintenance technicians only. Avoid impromptu operations or attempts, contact OBL customer service for specific information.

These maintenance suggestions are not intended as "do-it-yourself" repairs. To perform such works, specialised technical knowledge is required and operations must be performed by qualified personnel.

During inspection and cleaning operations always use suitable personal safety devices to ensure and protect the safety of workers.

Personal involved in cleaning and dismantling operations of the plant must be adequately trained and professionally qualified.

During all maintenance or cleaning tasks, the plant MUST be disconnected from the mains.

TECHNICAL DOCUMENTATION

Contact OBL customer service regarding "special maintenance" (Tel. +39-02-26919.1, serviceobl@idexcorp.com) to receive:

- targeted and detailed information
- a copy of any specific instructions
- an updated copy of the sectional drawing, if any

EN

AUGER CHECKS AND REPLACEMENT

The most vulnerable point of each POLISOL plant is the auger.

The auger is an essential component for powder dosing and is shaped like a large corkscrew. For various reasons (mainly humidity inside the hopper, and consequent powder compaction), this screw may break.

In this case, replace with a new piece. The following instructions have been attached for this purpose.

ATTENTION: **The following operations are intended for skilled maintenance personnel only!!**

After making sure that the plant is disconnected from the mains, and that no possible accidental restarts to the machine may occur, proceed first with removing powder from inside the hopper. Find all powder left inside the auger to make sure that later, during removal, no powder is "withheld."

For the steps from here on, it is advisable to work from the back of the plant, so as to be in a comfortable position and close to the areas on which work will be performed.

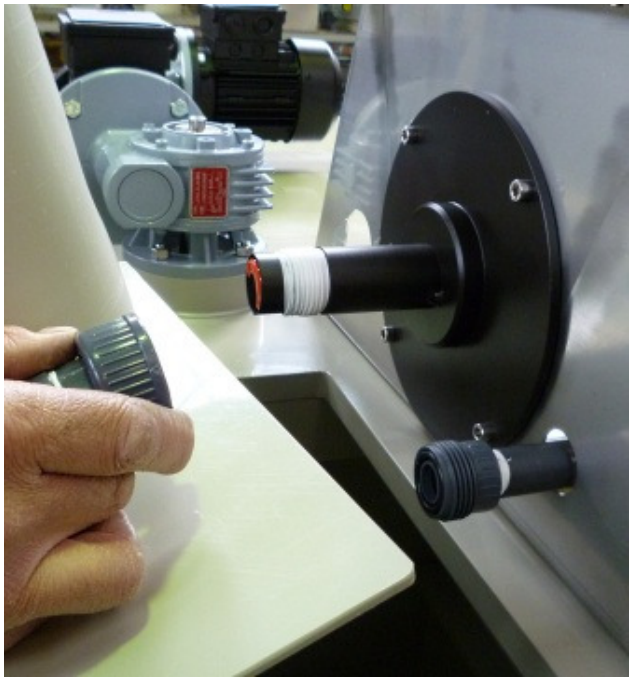
VERSIONS WITH DUCTS:

In this case, you must first unscrew the "T" protection of the auger, visible from inside the duct.

Auger protection. Unscrew it for duct removal.

EN

After having removed the T from inside the duct, unscrew the water supply fitting.



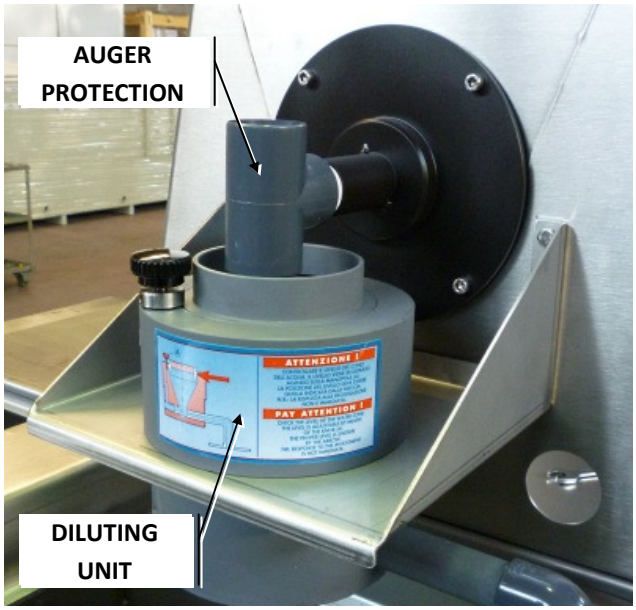
It will then be possible to operate the auger as described below.

VERSIONS WITH FUNNELS:

The diluting system protective guard, viewed from the rear part.

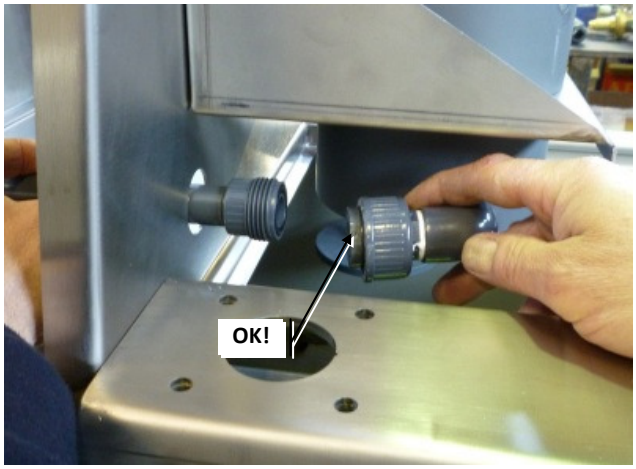
Remove the protective guard.

EN

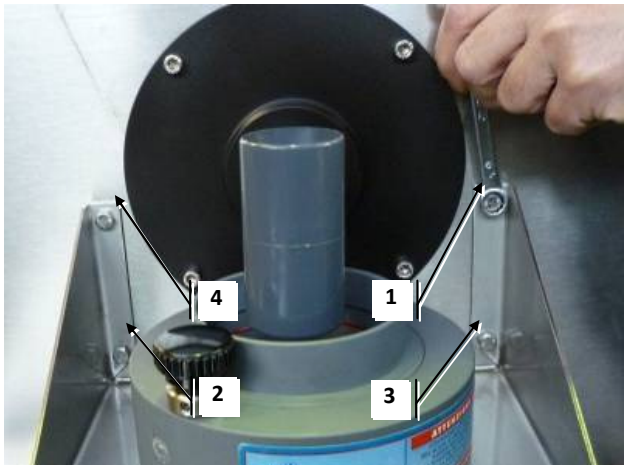


The diluting unit will thus be visible, including the T protection of the auger.

Passing from the front part of the plant, unscrew the water supply line fitting on the diluting funnel



Make sure the fitting has been fully unscrewed and that the water inlet tube



Unscrew the four fastening bolts on the diluting support bracket. SUPPORT THE UNIT BEFORE REMOVING THE LAST BOLT!

EN

Finally, remove the bracket including the diluting system

AUGER REMOVAL:

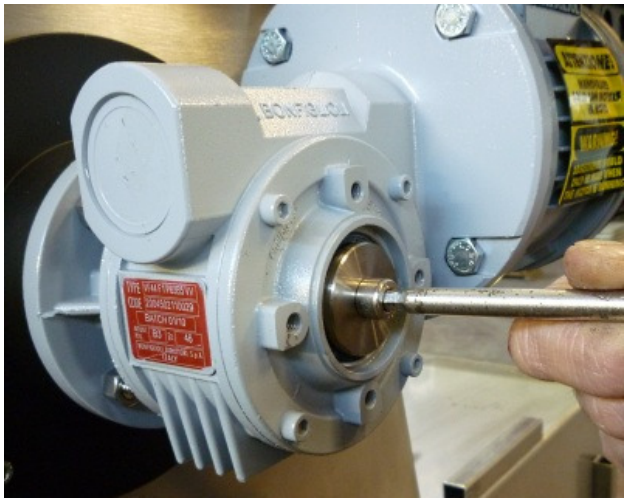
Unscrew the extraction flange fastening screws

EN

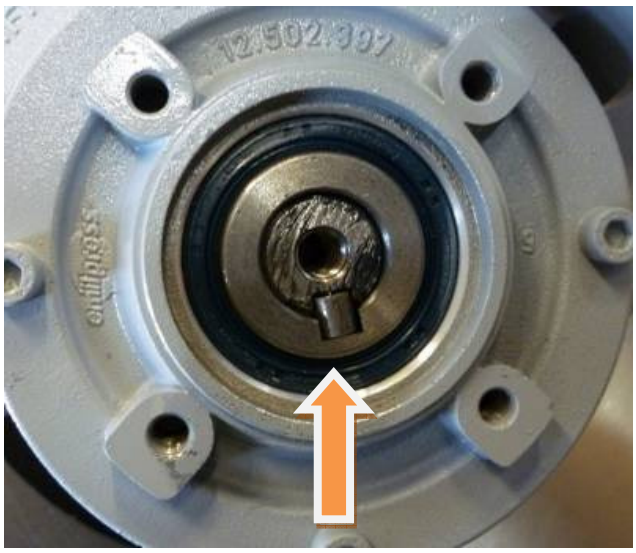
Now it will be possible to remove the auger extraction flange.
ATTENTION: During this phase, pay special attention of any powder that may fall inside the hopper!

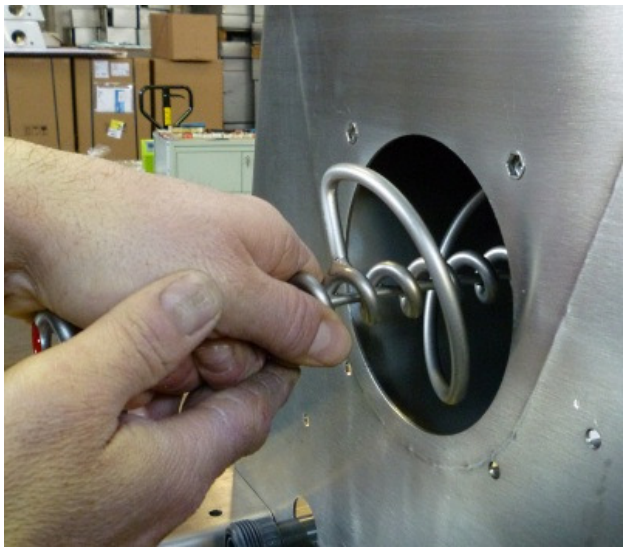
Now we can proceed with dismantling the auger shaft. To do this, it will be necessary to remove the protective cap from the rpm variator side, on the left side of the plant.

Unscrew the protective covers fastening screws



Remove the four the extraction flange fastening screws

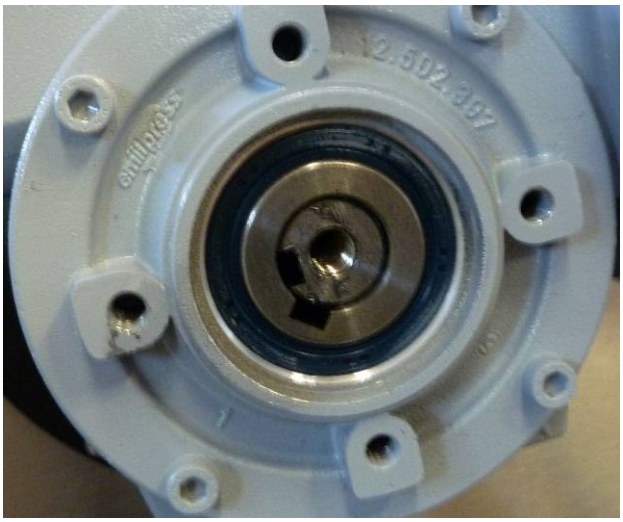




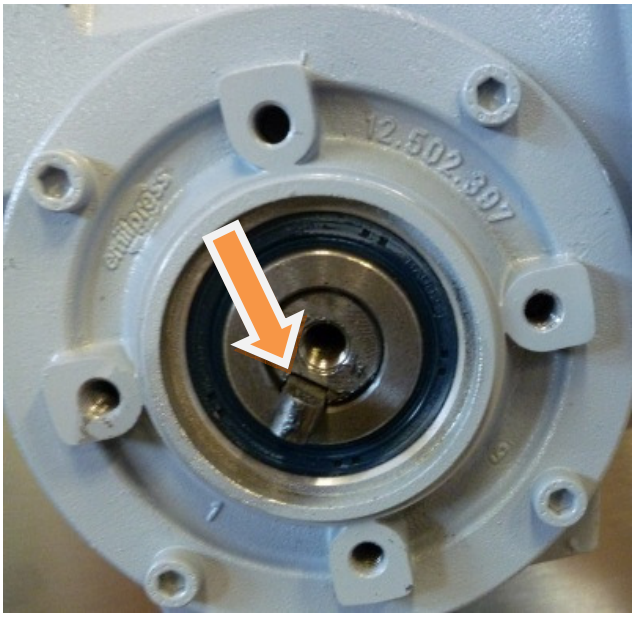
The auger shaft will be visible once the screw and washer have been removed.
ATTENTION: during the following removal of the shaft, pay special attention to the shaft key shown in this image!!

Pay special attention to the shaft key; remove the auger shaft, removing it from the tank side. Make sure that no metal pieces are left inside the hopper.

Insert the new part, after lightly greasing the key housing.



Once the shaft has been inserted, align the two key housings before inserting the key.



Once the two housings have been aligned, insert the key and perform the above operations in reverse.

EN

AGITATOR GEARBOX REPLACEMENT

The speed reducer installed on the agitator allows the product to be mixed in a continuous and consistent manner without affecting the quality of the final solution. Considering the continuous operation over long periods of time, this part is subject to wear, and accordingly may need to be replaced.

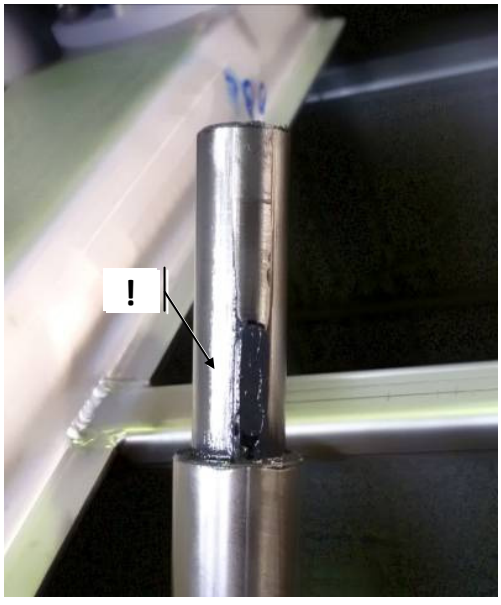
EN

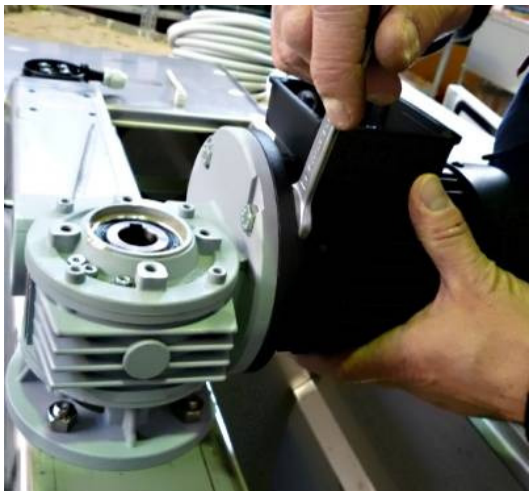
ATTENTION: Before starting the operation make sure that the plant is disconnected from the power source!

After making sure that conditions are safe, the personnel responsible can proceed to replace the unit as follows:

Remove the top protective cover of the gearbox

Loosen the bolts located under the protective cover taking care to hold from under the agitator shaft.



Remove the bolts and washers, and remove the shaft.	**Pay attention to the key: Check it, and if missing, add graphite grease.**
	
Remove the electric motor.	**Disassemble the gear unit and replace with a new one. To reassemble the unit, follow the above operations in reverse.**

EN

REPLACING THE CONTROL PANEL OF THE ELECTRICAL PANEL

The control panel of the POLISOL plant is completely manufactured in Italy. This guarantees excellent quality and every single unit is tested; however, very rarely, and conditional to the type of electrical system the equipment is connected to, it may need to be replaced. As this operation is quite simple, we have included these instructions so that **qualified personnel** can replace it without requiring the assistance of OBL technical support.

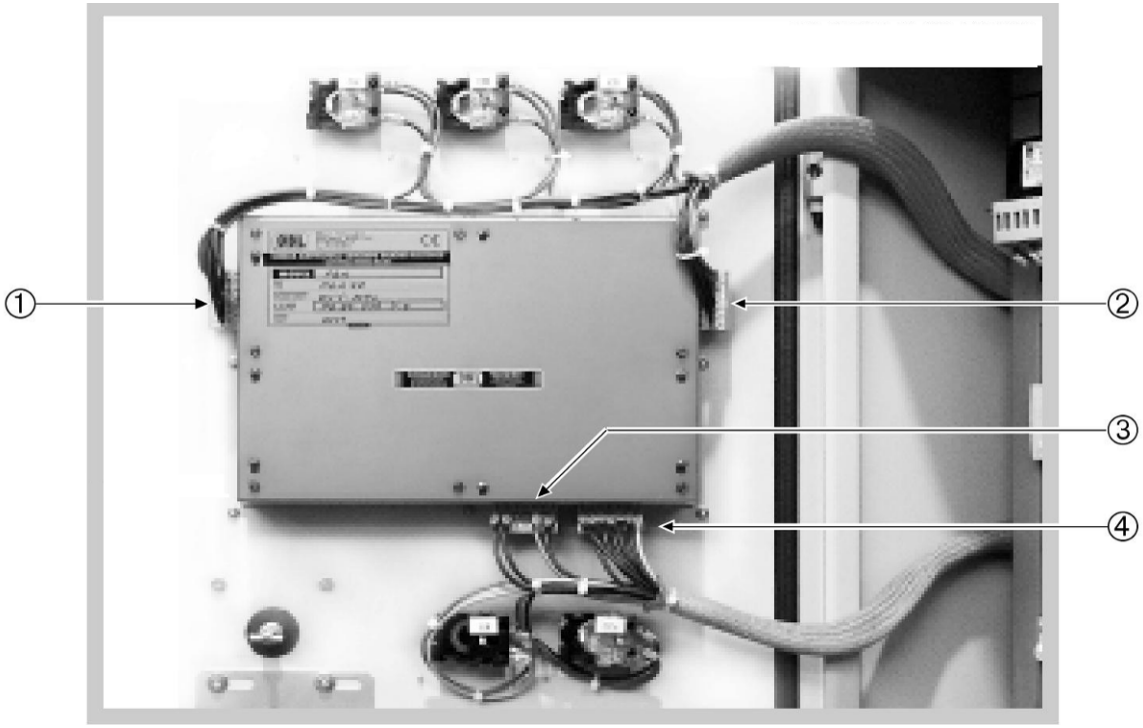


Fig. 9: Control panel replacement on electric panel

To replace the control panel (Fig. 8), proceed as follows:

- Disconnect pins 1,2,3, and 4
- Unscrew the 8 slot bolts
- Remove the panel
- Accommodate the new panel with the OBL logo positioned in the top left hand corner.
- Screw down the 8 slot bolts
- Reconnect the pins.

EN

The panel is now ready to function.

12. OTHER INFORMATION

EQUIPMENT INSTALLED ON BOARD THE PLANT THAT HAS NOT BEEN DESIGNED BY OBL


Accessories can be assembled on board the plant upon request.

It is essential that:

- The operator must read and understand all instructions, especially those relating to safety.
- The operator DOES NOT ALTER installation calibration in any way
- The operator shall not attempt in any way to modify the wiring of these accessories (also powered by the main electrical panel unless the plant has been supplied with a junction box)

VIBRATOR

Some powders tend to adhere to the inner walls of the hopper (lime water, CMC, etc.); upon request, OBL can provide a vibrator installed on the hopper. Attention:

- The vibrator is not strictly necessary for polyelectrolyte powders
- The vibrator must be ordered together with the plant (it cannot be supplied separately and/or later)
- The vibrator is set to minimum power by OBL; this setting MUST NOT BE CHANGED FOR ANY REASON
- Never try to perform maintenance on the vibrator before contacting OBL technical support

POWDER SENSOR (standard with pneumatic loading system)

This sensor provides a S.P.D.T. signal when the powder level inside the hopper goes below the alert level (the plant CONTINUES to operate and powder continues to be dosed). This S.P.D.T. signal must be used by the operator as information necessary for prompt intervention and for refilling the hopper. Attention

- The powder sensor must be ordered together with the plant (it cannot be supplied separately and/or later)
- In the event of malfunction, before taking action, contact OBL technical support and refer to the relative instruction manual

PNEUMATIC LOADING (supplied with the powder sensor and 220 litre hopper)

A pneumatic loading system (using an industrial suction device) that works manually (after no powder is detected by the sensor, the operator must physically go to the system and fill the hopper)

Manual local pneumatic powder loading system (using a manual suction device). The operator must switch the suction system on and off via the local panel. Each loading cycle includes up to three 25 kilogram bags.

Suction device specifications:

- 220-single phase-50 Hz, 1000 W powered directly from the electrical panel (requires the presence of the NEUTRAL on the field in addition to Three-phase power and grounding wires)
- Powder level sensor with S.P.D.T. contact for powder request
- Filter cleaning system by means of an air circuit (at least 6 bar g without moisture must be available)
- Loading cover that can be opened for emergency manual loading

5 filters are supplied as spare parts (included in supply).
It is advisable to change filters after having loaded 100 25 kilogram bags.

Loading cycle

1. Wait for the electrical panel to indicate the need for powder loading
2. Insert the loading tube in the bag
3. Switch on the suction device via the local panel
4. Once the first bag has been emptied, insert the loading tube in the second bag and then the third, while the suction device is still on.
5. Once the bag has been emptied, switch off the suction device
6. End of loading cycle

Important:
- Do not load more than 3 35 kilogram bags
- Do not add other bags before the no powder signal
- Powder loading lasts 10 seconds with 10 second cleaning filter intervals
- The minimum powder level sensor (no powder) gives a S.P.D.T. signal and the user must transform this electrical contact to a visual or audio signal.

OPERATING FAULTS AND FAILURES

EN

The tables below are not exhaustive. They only contain possible causes and suggested solutions relative to the most comment and recurring faults.

12.1.1 Concentration other than that required and/or different powder flow from the diagram

POSSIBLE CAUSE	SOLUTION
The true powder flow has not been calculated	- Redesign the true concentration curve according to information stated on page 13 point 2
- The type of powder has been changed but the true new flow was not re-calculated	- Proceed as above
- For plants with a diluting system via water blade= the powder is not falling on the blade but outside it	- Visually check diluting nozzle conditions and refer to the OBL technical office for information on how to proceed (ask Domenico re:nozzle calibration and screw adjustment)
- For plants with a diluting system via funnel= the required water level inside the funnel is too low	- Reset correct level
- The knob is positioned to minimum instead of maximum and vice-versa	- Count the actual number of rpm; check the data plate and, if necessary, reposition the knob
- Powder inside the hopper has been compacted and the auger is not able to transfer it.	Remove powder and replace with new powder. Check anti-condensation resistance operations (see pg.9)

For all other malfunctions, contact customer support **BEFORE TAKING ACTION** : (Tel. +39 0226919.1 serviceobl@idexcorp.com reporting the job number and serial number of the plant to receive proper technical support

STORAGE FOR LONG PERIODS

For long term storage, observe the following precautions in addition to those described in "Storage conditions":

- Remove the powder inside the hopper
- Disconnect from the water mains
- Before storage: protect unpainted surfaces with long-term anti-corrosion products
- Check conditions about every 6 months. At the first sign of corrosion clean and re-apply anti-corrosion products

Report special storage conditions in advance in order to provide for adequate packaging.

DISPOSAL AND DEMOLITION

POLISOL plants are made of metal and plastic parts.

It is the user's responsibility to respect the procedures and regulations in the countries of operation, regarding disposing of waste resulting from maintenance (consumption material) or the demolition of equipment.

"Waste" is intended as any substance or object which the holder has decided to or is required to discard. Waste is classified according to the origin, in "urban waste" and "special waste" and, according to harmfulness, in "hazardous waste" and "non-hazardous waste".

Maintenance or demolition pump waste is classified as "special waste only if properly cleaned. Otherwise, they are to be considered "HAZARDOUS special waste".

"Special waste" and "urban waste", and especially "hazardous" and "non-hazardous" waste, must never be mixed. "

Briefly summarising:

- "special waste" must not be disposed of as "urban waste"
- this waste must be collected separately using public or private collection systems required by local laws (in an approved collection centre)

- due to its use, this equipment may contain hazardous substances. Improper disposal can have adverse effects on human health and the environment
- administrative and/or penal sanctions exist in the case of improper disposal of or abuse of waste.

Disposal of substances into sewers or abandoning waste in the environment is strictly prohibited. Contact your local waste disposal service to receive adequate and accurate information regarding disposal.

EN

13. PROVISIONS FOR RETURNING GOODS TO OBL

ATTENTION: OBL reserves the right to reject any goods received without notice !

In the interest of the client/user, we kindly ask the SENDER to ALWAYS contact OBL customer service (Tel. +39-02-26919.1, , serviceobl@idexcorp.com) to agree on the advantages and disadvantages of sending/repair.

These provisions are applicable for ANY reason for returning goods to OBL. Example:

- Overhaul, maintenance, conversion
- Operational/performance verification, Guarantee applicability assessment
- Other...

REQUIRED SENDER PROCEDURE

- **BEFORE** shipping, **ALWAYS** contact OBL customer service (Tel. +39-02-26919.1, serviceobl@idexcorp.com) to receive your **RA (Authorised Return) number**, information regarding goods returns and **related paperwork**.
- **ALWAYS** thoroughly clean ALL equipment from product residue, to ensure and safeguard the safety and security of the recipient;
- Fill in the full declaration of conformity upon sending and send it with its equipment (we recommend attaching it to the shipping documents and placing a copy in the package);
- Package the merchandise to avoid damage from transport and indicate the **RA** number on the package;
- Insert a copy of the transport document and completed declaration of conformity in the package (the courier often keeps them);
- Ship goods **POSTAGE PAID** (always with the relative transport document carrying the **RA** number) to: OBL S.r.l. Via Bruno Buozzi n°18 - 20090 Segrate (MILANO) ITALY.

MACHINE CLEANING

The plant must be delivered to OBL free from the processed product; therefore the hopper, auger and compartments must be empty, clean and without residues.

To properly clean the system we recommend the following procedures:

-Drain out all products from the plant from the drain valve

-Empty and, if necessary, dismantle the hopper to clean it (including the auger unit) of any powder residue

-Under these conditions, restart the system to allow total filling

-Once the last compartment is completely full, empty and repeat the operation a second and last time, and then proceed to dry it.

This information does not replace any existing safety standards or requirements. OBL declines all responsibility for any damage to persons or property.

SENDER RETURN REJECTED

If goods should arrive in OBL:

- Not adequately cleaned (and/or without a completed declaration of conformity)
- With the auger and any pumps installed with pump head not properly removed and cleaned
- WITHOUT RA number (Authorised Return) on the transport document and/or the package itself
- With chemicals in the package

These goods will NOT be accepted (and NO work will be done on them) and they will be returned to the sender FREIGHT UNPAID!

14. OVERALL AND SECTIONAL DRAWINGS

Given the importance of these documents (which can undergo further changes or updates), they are not considered part of this instructions manual. Unless otherwise agreed, they are therefore manually attached (latest edition).

15. DECLARATION OF EC CONFORMITY

EN

POLISOL plants for continuous dilution of emulsion meet the requirements of the following European Directives (latest edition):

- Machine Directive
- Low Voltage Directive
- Electromagnetic Compatibility Directive

EC declaration of conformity is an integral part of this instructions manual (see next page).

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POMPE DOSATRICI

METERING PUMPS

OBL s.r.l. - Via Kennedy, 12 - 20090 Segrate – MILANO – ITALY
Tel. +39 02 26919.1 – Fax +39 02 2133893 - E-mail: info@obl.it

DICHIARAZIONE DI CONFORMITÀ CE (Allegato IIA - 2006/42/CE)

CE CONFORMITY DECLARATION (Attachement IIA - 2006/42/CE)

Modello / Model / Modèle / Modell / Modelo / Modelo / Model / Model / Typ / Model / Μαίλ / Μοντέλο

IMPIANTI AUTOMATICI SERIE *AUTOMATIC PLANTS SERIES* **PL/PK/PB**

IT DICHIARAZIONE DI CONFORMITÀ CE

Noi, **OBL** s.r.l., **MILANO ITALIA**, dichiaramo sotto la nostra unica responsabilità che il prodotto cui questa dichiarazione si riferisce, è conforme alle seguenti direttive e successive modifiche:

- **Direttiva Macchine 2006/42/CE;**
- **Direttiva Bassa Tensione 2006/95/CE;**
- **Direttiva Compatibilità Elettromagnetica 2004/108/CE.**

GB CE CONFORMITY DECLARATION

We, **OBL** s.r.l., **MILAN ITALY**, declare under our sole responsibility that the product relevant to this declaration complies with the following directive and subsequents modifications:

- **Machinery Directive 2006/42/EEC;**
- **Low Voltage Directive 2006/95/EEC;**
- **Electromagnetic Compatibility Directive 2004/108/EEC.**

FR DECLARATION DE CONFORMITE CE

Nous, **OBL** s.r.l., **MILAN Italie**, déclarons sous notre seule responsabilité que le produit auquel cette déclaration se rapporte, est conforme au suivantes directives et successives modifications:

- **Directive Machines 2006/42/CEE;**
- **Directive Basse Tension 2006/95/CEE;**
- **Directive Compatibilité Electromagnétique 2004/108/CEE.**

DE EU-KONFORMITÄTSERKLÄRUNG

Wir **OBL** s.r.l., **MAILAND ITALIEN**, erklären unter unserer Verantwortung, dass unser produkt, auf das sich diese erklärung bezieht, den folgenden EU-richtlinien und deren anderungen entspricht:

- **Maschinenrichtlinie 2006/42/EWG;**
- **Richtlinie Niederspannung 2006/95/EWG;**
- **Normen über die Elektromagnetische Verträglichkeit 2004/108/EWG.**

ES DECLARACIÓN DE CONFORMIDAD CE

Nosotros, **OBL** s.r.l., de **MILÁN ITALIA**, declararamos bajo nuestra sola responsabilidad que el producto al que se refiere esta declaración, cumple con las siguientes directivas y sucesivas modificaciones:

- **Directiva de Máquinas 2006/42/CEE;**
- **Directiva de Baja Tensión 2006/95/CEE;**
- **Directiva de Compatibilidad Electromagnética 2004/108/CEE.**

PT DECLARAÇÃO DE CONFORMIDADE CE

Nós, **OBL** s.r.l., **MILÃO ITÁLIA**, declaramos sob nossa inteira responsabilidade que o produto ao qual se refere esta declaração se encontra de acordo com as seguintes directivas e sucessivas modificações:

- **Directivas Máquinas 2006/42/EEC;**
- **Directivas Baixa Tensão 2006/95/EEC;**
- **Directivas Compatibilidade Electromagnética 2004/108/EEC.**

NL EG-VERKLARING VAN OVEREENKOMST

Wij, **OBL** s.r.l., **MILAAN ITALIË**, verklaren voor onze uitsluitende verantwoordelijkheid dat het product waarop deze verklaring betrekking heeft, in overeenstemming is met de volgende richtlijnen en navolgende wijzigingen:

- **Machinerichtlijn 2006/42/EEG;**
- **Laagspanningsrichtlijn 2006/95/EEG;**
- **Richtlijn Bestendigheid tegen Elektromagnetische Storingen 2004/108/EEG.**

DA CE-OVERENSSTEMMELSES ERKLÆRING

Vi, **OBL** s.r.l., **MILANO ITALIEN**, erklærer os ansvarlige for at produktet, som denne erklæring henviser til, stemmer overens med følgende direktiver og påfølgende modificeringer:

- **Maskindirektiv 2006/42/EEC;**
- **Lavspændingsdirektiv 2006/95/EEC;**
- **Direktiv for Elektromagnetisk Forenelighed 2004/108/EEC.**

SV EG ÖVERENSSTÄMMELSEFÖRKLARING

Vi, **OBL** s.r.l., **MILANO ITALIEN**, förklarar under eget ansvar, att produkten, till vilken denna förklaring hänför sig, överensstämmer med förljande normer och deras respektive ändringar:

- **Norm för Maskiner 2006/42/EEC;**
- **Norm för Lågspänning 2006/95/EEC;**
- **Norm för Elektromagnetika Förenlighet 2004/108/EEC.**

NO CE-OVERENSSTEMMELSESERKLÆRING

Vi, **OBL** s.r.l., **MILANO ITALIA**, erklærer under eget ansvar at produktet som omfattes av denne erklæringen er i overensstemmelse med følgende direktiver og senere endringer:

- **Maskindirektivet 2006/42/EU;**
- **Lavspenningsdirektivet 2006/95/EU;**
- **Direktivet vedr. Elektromagnetisk Kompatibilitet 2004/108/EU.**

FI YHDENMUKAISUUSTODISTUS

OBL s.r.l., **MILANO ITALIA**, vakuuttaa omalla vastuullaan, että tässä todistuksessa mainittu tuote vastaa seuraavien direktiivien ja niihin tehtyjen muutosten vaatimuksia:

- **Laitedirektiivi 2006/42/EU;**
- **Pienjännitedirektiivi 2006/95/EU;**
- **Direktiivi 2004/108/EU joka käsittelee sähkömagneettista yhteensopivuutta.**

EL ΔΗΛΩΣΗ ΣΥΜΜΟΡΦΩΣΗΣ CE

Εμείς η εταιρία, **OBL** s.r.l., **ΜΙΛΑΝΟ ΙΤΑΛΙΑΣ**, δηλώνουμε υπεύθυνα ότι το προϊόν αυτό είναι κατασκευασμένο σύμφωνα με τις παρακάτω προδιαγραφές και τις τροποποιήσεις τους:

- **Προδιαγραφές μηχανημάτων 2006/42ΕΕ**
- **Προδιαγραφές χαμηλής τάσης 2006/95/ΕΕ**
- **Προδιαγραφές ηλεκτρομαγνητικής συμβατότητας 2004/108/ΕΕ**

Nome e posizione del dichiarante / Name and position of issuer / Nom et fonction de l'émetteur
Name und position des Ausstellers / Nombre y cargo del expedidor / Nome e posição do emissor
Naam en functie van de verstrekker / Navn og adresse på udsteder / Namn och befattning på utställare
Utsteders navn og stilling / Julkaisijan nimi ja asema / Ονομα και θέση εκδότη

Benito LEONETTI
Responsible of the "TECHNICAL MANAGEMENT"

Segrate - MILANO: 01.01.2009

Firma del dichiarante / Signature of issuer / Signature de l'émetteur
Unterschrift des erstellers / Firma del expedidor / Assinatura do emissor
Handtekening van de uitgever / Udsteder, underskrift / Utsteders signatur
Utfärdarens namnteckning / Ilmoituksen antajan allekirjoitus / Υπογραφη εκδοτη