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RECOMMENDATION
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☐ 2- REVISE & RESUBMIT. WORK MAY PROCEED SUBJECT TO INCORPORATION OF CHANGES.
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6237013-PM0009-90-VMA-0004-R00



INSTALLATION, USE AND MAINTENENCE MANUAL



Manufacturer	Matec S.r.l.
Address	Via Aurelia Ovest 383 54100 MASSA (MS) - ITALY
Email	info@matecitalia.com
Website	www.matecitalia.com
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Section I – General Information	5
I.1 Plant operation for the treatment of industrial waste water	6
I.2 Conformity assessment	7
I.3 How to identify the model of the machine	8
I.4 Warranty	9
I.4.1 Warranty revocation and exoneration of Matec responsibilities	10
I.5 Safety	11
I.5.1 Safety recommendations	11
I.5.1.1 Working environment	11
I.5.1.2 Machine noise level	12
I.5.2 Description of the operator role dedicated to the use of the machine	12
I.5.2.1 Residual risks for machinery operators	13
I.5.2.2 Description of the possible danger signs	14
I.5.3 Reference legislation	18
I.6 Information about the filter press machine	19
I.6.1 Filter press machine description	19
I.6.2 Filter press machine specifications	19
I.6.3 Layout	19
Section II – Plant installation	20
II.1 Preliminary checks	20
II.1.1 Delivery checks	21
II.2 Preparation for the machine installation	22
II.2.1 Placing of the filter press	22
II.2.2 Placing other components	24
II.2.3 Connecting the machinery to the power grid	25
II.2.3.1 Specification for the connection to the power grid	25
II.3 Machinery stop	26
II.4 Examples of machine misuse	27
II.5 Examples of “intended use” of the machine	27
II.6 Machine configuration	28



II.6.1 Configuration of the NewTT pressure switches and closing of the oleodynamic cylinder	28
II.6.1.1 List of the programmable options of the pressure switch	29
II.6.2 Standard parameters for the pressure switch configuration	31
II.6.2.1 NewTT 1000 Model – Anti-crossing TT opening pressure switch	31
II.6.2.2 Oleodynamic cylinder pressure switch	32
II.7 Machine maintenance	33
II.7.1 Cleaning Procedure To Remove Mud Attached To The Lower Part Of The Plates	34
II.7.2 Maintenance summary table for warranty purpose	35
II.7.3 Cloth replacement	37
II.7.3.1 Cloth washing	39
II.7.4 Lubrication	39
II.8 Troubleshooting	40
II.9 Machinery and waste disposal	45
II.10 Plant demolition	45
II.11 Spare parts	46
II.11.1 Matec authorized assistance center	47
II.12 Notes	48
Section III – Annexes	49
III.1 Annex A – Signage	49
III.2 Annex B – Filter Press machine description	51
III.3 Annex C – Filter Press Machine Specifications	53

Section I – General Information

The manual must always be available to operators and technicians responsible for the equipment and the machinery.

While working, the machinery must be managed exclusively by trained personnel who has read and understood the instructions in this manual.

Instructions, warnings and general rules for accident preventions must be fully complied.

Any misuse of the machinery (e.g. any use not described in this manual) exempts Matec S.r.l. from any responsibility and for any harm caused towards things, environment, people and/or animals.

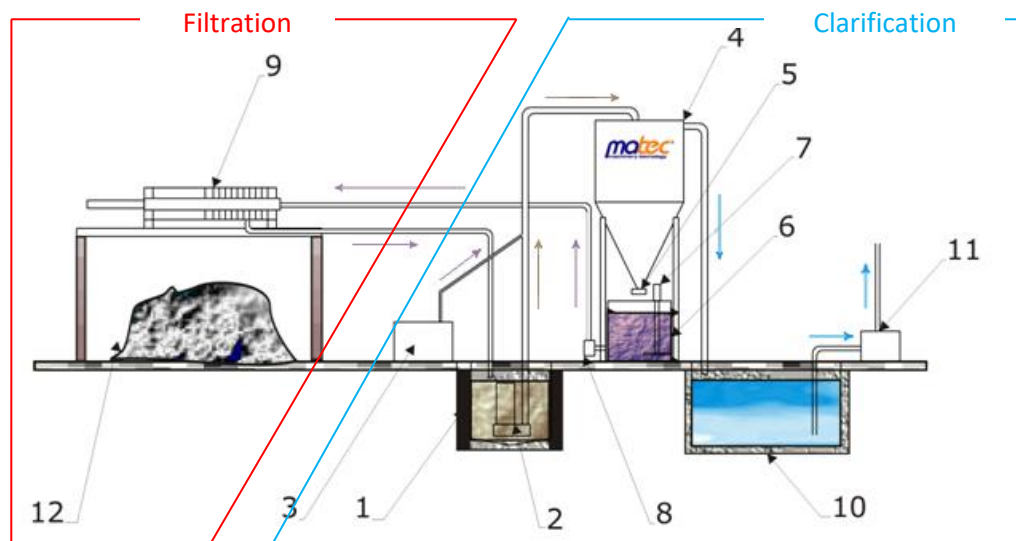
The given information, as far as detailed, are general and not specific for this or other machinery.

This manual provides all the needed information for the correct and the best productive use of the machinery.



For specific information and further explanation on the text, it is recommended to [contact Matec](#).

I.1 Plant operation for the treatment of industrial waste water



1. Waste water collection tank	7. Mud homogenizer
2. Submersible pump	8. Filter feeding pump
3. Flocculant dosing system	9. Filter Press
4. Deep cone thickener	10. Clarified water collecting tank/pit
5. Mud discharging valve	11. Clarified water pump
6. Mud collection tank (or "Bifang")	12. Dehydrated mud collection area



The clarified water can be used in waste water plant working cycle EXCLUSIVELY.

I.2 Conformity assessment

Definition of “Machinery” coming from [Machinery Directive 2006/42/CE](#)

	1. An assembly, fitted with or intended to be fitted with a drive system other than directly applied human or animal effort, consisting of linked parts or components, at least one of which moves, and which are joined together for a specific application. 2. An assembly referred to in 1) indent, missing only the components to connect it on site or to sources of energy and motion. 3. An assembly referred to in 1) and 2) indents, ready to be installed and able to function as it stands only if mounted on a means of transport, or installed in a building or a structure. 4. An assembly referred to in 1), 2) and 3) indents or partly completed machinery which, in order to achieve the same end, are arranged and controlled so that they function as an integral whole. 5. An assembly of linked parts or components, at least one of which moves and which are joined together, intended for lifting loads and whose only power source is directly applied human effort.
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The conformity assessment is usually included in the instructions manual provided to the client or it is together with all the documents of the plant.

Matec declares the machines comply with the European Union directives

- [2006/42/CE](#) (machinery directive) consolidated on 15/12/2009
- [2006/95/CE](#) (low voltage directive)
- [2004/108/CE](#) (EMC directive)

I.3 How to identify the model of the machine

Matec machines differ in dimensions and plate number. Every machine is given with a fixed and indelible plate known as “CE mark”. On the plate you can find the information about the machine model and the number of plates:

- Model
- Power voltage
- Agreed layout position
- Weight
- Identification number
- Year of manufacturing



The image shows a template for the CE marking plate. It includes the Matec logo, contact information (Massa (MS) - Tuscany - Italy, Tel. +39 0585 831034 - Fax +39 0585 835598), and a large CE mark. Below the logo, there are fields for the following information:

- modello/model
- modele/modelo
- tensione/voltage
- tension/tensio'n
- pos.layout
- peso/weight
- poids/de peso
- matricola/serial n.
- matricule/matricula
- anno di costruzione/year construction
- annee de construction/año de construccio'n

At the bottom, it says "Depurazione e filtrazione acque reflue Water Treatment and slurry dehydration plants" followed by flags of Italy, EU, USA, Brazil, and Russia.

Any requests of information, spare parts or else must come together with the model, the identification number and the year of manufacturing.



It is forbidden to place markings that can lead to misinterpretation of the CE marking information.

The CE marking is placed on the framework to be found on every Matec machine easily.

I.4 Warranty

During the 24 months of the Matec warranty, Matec commits to removing any possible defects of the material or operation, if the plant and the equipment have been assembled with the assistance of Matec technicians and the maintenance of machinery have been done following the instructions that can be found in this

Warranty terms and duration

24 month warranty starting from the first use of the machine

It covers the replacements or fixing of damaged components when the manufacturing or original defect is verified

The replacement of single parts does not renew the warranty period of the whole plant

For the machinery parts supplied by third companies, the warranty is the one given by the manufacturers

To be paid by the client

Labor costs related to the intervention of Matec S.r.l technicians

Delivery costs and spare parts shipping

Round trip expenses for Matec technicians

Warranty does **not** cover:

Consumables supplied for the first use of the machine

Wearing parts, such as

- cloths
- pump cases and impellers
- valve sleeves
- oil filters
- oleodynamic pumps and its rotors and stators

manual.



1.4.1 Warranty revocation and exoneration of Matec responsibilities

Warranty is revoked and Matec responsibilities exonerated if:

- Extraordinary maintenance on the machinery is done without the assistance of Matec's own or approved technicians.
- The plant is installed without being in accordance with laws and regulations in the country in which is going to be used.
- The plant is used neglecting instructions posted in this manual.
- Modifications to plant layout are done without being signed by Matec.
- Spare parts not supplied or approved by Matec are used (see section "Maintenance operations and suggested products").
- The plant is misused (see section "Examples of machinery misuse").
- Machinery is supplied with wrong electricity.
- Markings applied upon the plant are removed.
- Unqualified technicians remove security devices (see section "Operators assigned to machinery").
- Machinery is used by not qualified personnel (see section "Operators assigned to machinery").
- Lack of protection for the machinery (e.g. a protective sheet or shelter).
- Changes to layout and structure of the plant without the written approval of Matec.

I.5.1 Safety recommendations

The plant is built for being operative in ventilated and well lit environments with the following temperatures:

At normal conditions	At cyclic damp heat	At steady damp heat
• between 5°C (41°F) and 40°C (104°F)	• see directive IEC 60068-2-3	• see directive IEC 60068-2-30

I.5.1.1 Working environment

It is forbidden:

- To operate with machinery in environments
 - exposed at risk of explosion,
 - with temperatures outside range 5°C and 40°C (41°F and 104°F),
 - with height higher than 2000m.
- To start the plant without having turned on or installed the safety measures.
- To place limbs, objects or tools into the machinery while the power is still on.
- To do maintenance or repair while the power is still on.
- To fix electrical or mechanical components when the plant is working and without pushing the emergency button.

The noise emissions during the working cycle and in the workplace are below the 70 dB(A).

The machine was conceived and manufactured to reduce at the origin the noise power level (according to the [directive 2006/42/CE](#), Attachment I, paragraph 1.7.4., letter f).

If the daily exposure level of the machine operators (that is to say the average level of noise the operators are exposed to) was over 85 dB(A), for example when placing the plant in an environment with reverberation or with other noise sources, the operator would be in a noise risk condition.

In that case, it would be necessary to adopt the counter measures to reduce the noise level by using screens, sound proof walls and booths, and giving the operator the proper individual protection devices (earplugs and ear protectors).

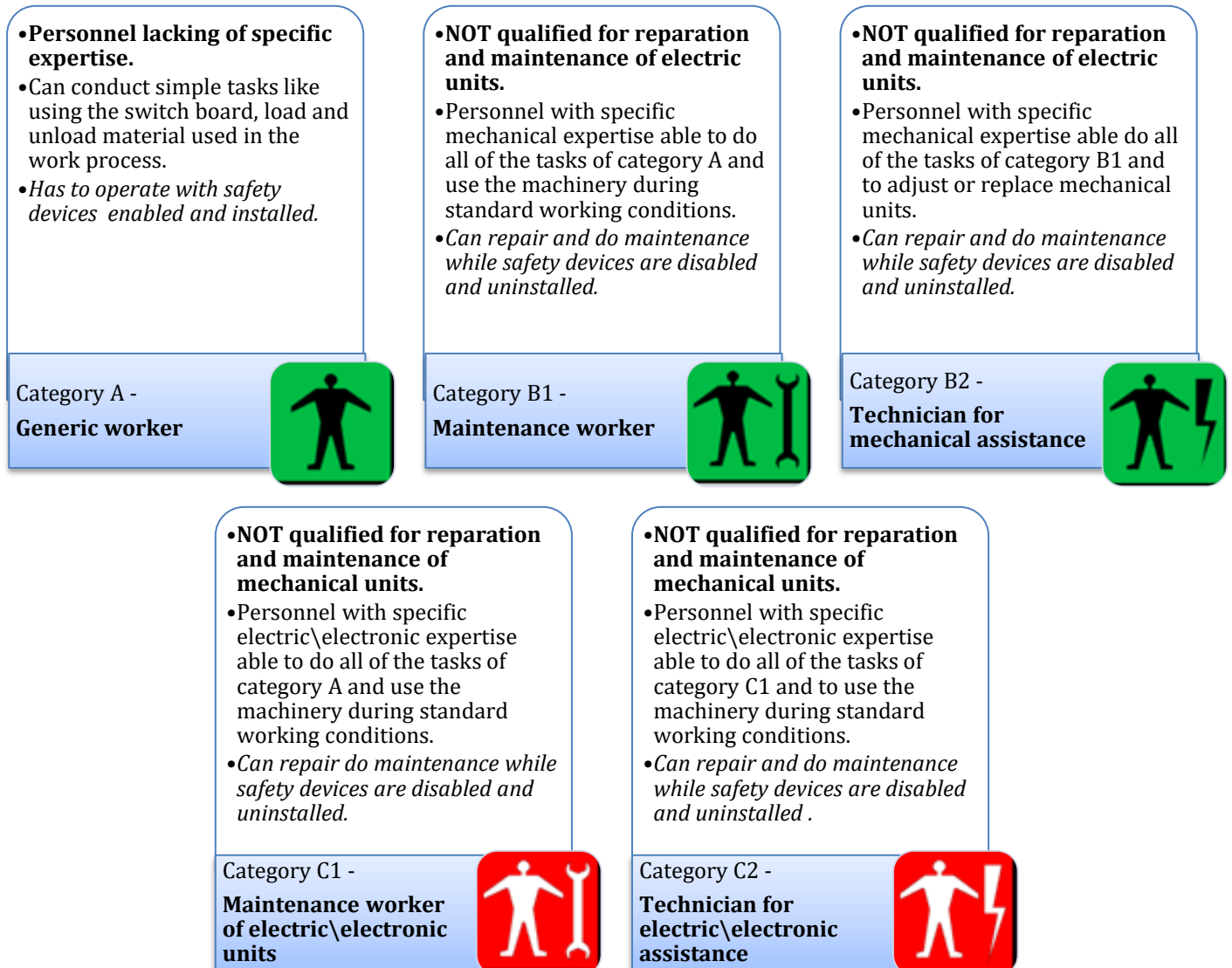
I.5.2 Description of the operator role dedicated to the use of the machine

Definition of “operator” from the [machinery directive 2006/42/CE](#)



Person or persons installing, operating, adjusting, maintaining, cleaning, repairing or moving machinery.

Any interactions between operators and machinery described within this manual must be executed by the personnel outlined in this section.



1.5.2.1 Residual risks for machinery operators

Matec build and designs each plant with particular attention towards the risks of machinery utilization.

An accurate analysis of the risks has been done and whereas they couldn't be eliminated, they have been drastically reduced.



Here's the list of the risks that couldn't have been eliminated (pictograms have a black figure on a yellow background):

Hazard signs	How to behave
 Limbs crushing	Do not place hands or feet inside the sliding track of the filter pack pressuring device or the shaking system to avoid crushing caused by the device movement.
 Crushing and dragging	Do not place limbs into the machinery housing, mud tank (or "Bifang") and flocculant tank.
 Slipping or falling	When using stairs to reach the machinery remember to use safety footwear.
 Spraying of pressurized fluid	Work in proximity of the filter press group and plant pipes wearing protective clothes.

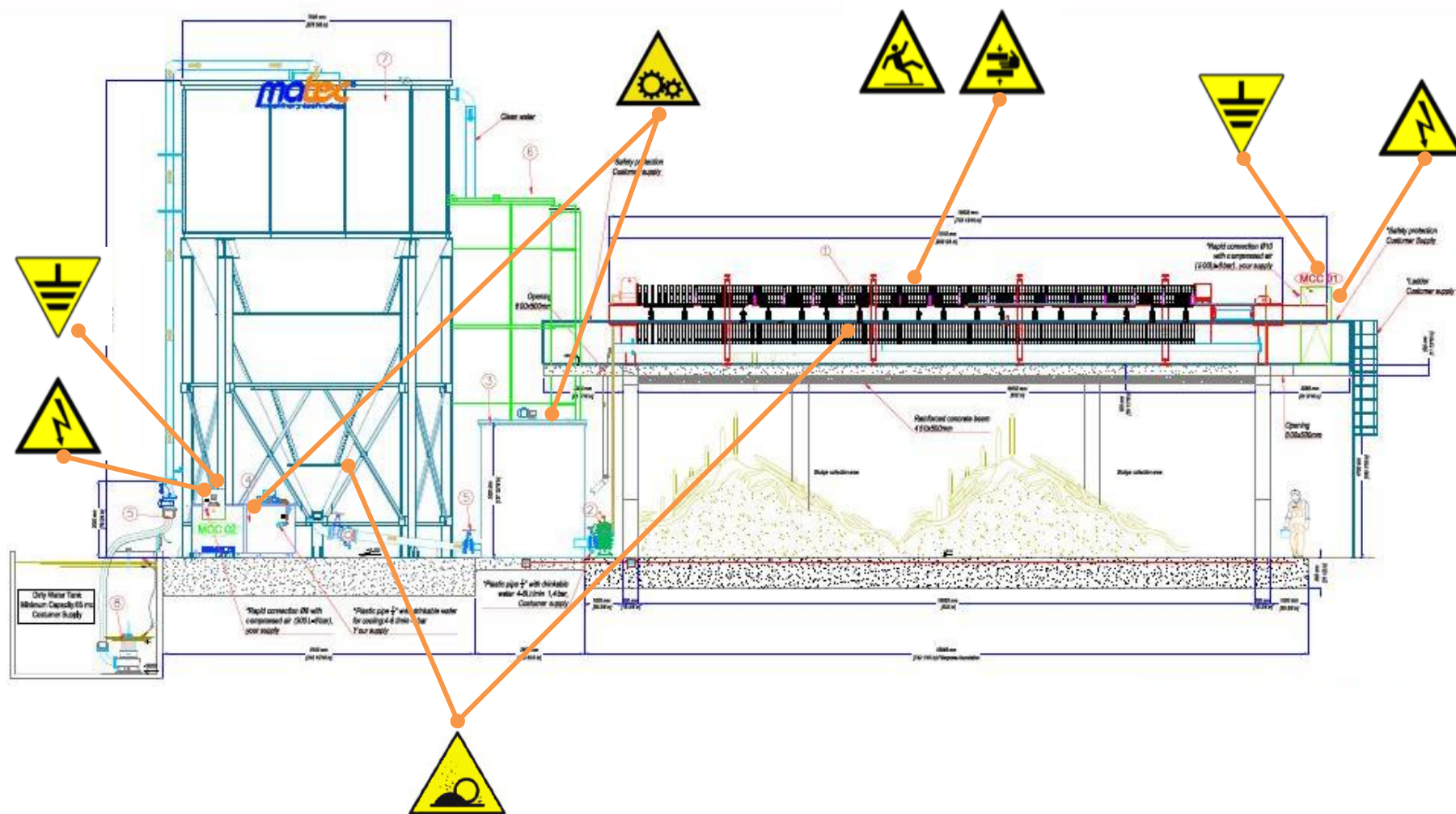
1.5.2.2 Description of the possible danger signs

Below all the possible signaling symbols of danger and other indications with their relative description. They can be applied on our machines and inside the instruction, use and maintenance manuals.

	Possible danger of "Slipping or falling"
	Possible danger of "Excessively loud noise"
	Possible danger of "Hanging load"
	Possible danger of "High electric tension"

	Sign for "Ground tension equal to the circuit tension"
	Sign for prohibited access to unauthorized personnel (red and black on the machine, white and black on the instruction and maintenance manuals)
	Sign for prohibited repairs and adjustments of the moving parts (red and black on the machine, white and black on the instruction and maintenance manuals)
	Sign for prohibited use of scarves and ties (red and black on the machine, white and black on the instruction and maintenance manuals)
	Sign for prohibited removal of the safety devices (red and black on the machine, white and black on the instruction and maintenance manuals)
	Sign for prohibited extinguishing using water (red and black on the machine, white and black on the instruction and maintenance manuals)
	Sign for required use of ear protection (blue and white on the machine, white and black on the instruction and maintenance manuals)
	Sign for required use of protective eye-mask (Blue and white on the machine, white and black on the instruction and maintenance manuals)
	Signal for required use of protective gloves (white and blue on the machines, black and white in the operation and maintenance instruction manuals)
	Sign for required shut down of power before starting to work on the machine (blue and white on the machine, white and black on the instruction and maintenance manuals)
	Sign for required ecological disposal of the waste material

	Not following the defined limitations regarding maintenance, controls, safety and loss or lack of consultation of a safety tag could cause serious injury. The Manufacturer will not be responsible for any problems caused by not following the indications shown on the plant or in the other provided manuals.
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I.5.3 Reference legislation

Noise

- EU Directive
- 2006/42/CE (machinery directive) attachment I, paragraph 1.7.4.2, letter u.

Individual protection devices

- EU Directive
- 89/686/CEE (Individual protection devices) consolidated version 20/11/2003 modified by the EU Directive 93/68/CEE consolidated version 1998/12/08
- 89/656/CEE (individual protection while working) consolidated version 27/06/2007 modified by the EU Directive 93/68/CEE consolidated version 1998/12/08

Safety on workplace

- EU Directive
 - 98/24/CE (risks from chemical agents while working)
 - 2009/148/CE (asbestos exposure while working)
 - 2003/10/CE (risks from physical agents - noise)
 - 88/642/CEE (risks from the exposure to chemical, physical and biological agents)
 - 89/654/CEE (safety and health minimal prescriptions at the workplace) consolidated version 27/06/2007
 - 2009/104/CE (safety and health minimal requirements for the use of work tools by workers while working)
 - 2004/37/CE (risks from the exposure to carcinogenic and mutagen agents while working)
 - 92/58/CE consolidated 27/06/2007
 - 79/640/CE (safety signage at the workplace)
- In Italy you must follow the legislative decree
 - 09/05/2008 n. 81 (health and safety safeguard at the workplace)
 - 02/02/2002 n. 25 (workers' safety against risks from chemical agents while working)

Environmental safeguard

- EU Directive
 - 2008/98/CE (wastes)

I.6 Information about the filter press machine

The Filter Press (or filterpress) is a machinery designed for automatic treatment of the sludge generated within the industrial workflow.

The filter press frame is composed of a steel chassis fixed into the ground. The steel chassis includes the plates draped with filtering cloth. The chassis is sustained with two beams.

The treatment of the waste water carried out by the filter press is the filtration



The plant max pressure must not go over 300 bar.

I.6.1 Filter press machine description

See annex B

I.6.2 Filter press machine specifications

See annex C

I.6.3 Layout

See annex D



The machinery, since its first start, must be protected against the elements. If used outdoor, we suggest to shelter the machinery (as shown below).



II.1 Preliminary checks

Before starting the machinery for the first time it is necessary to check that the:

• Paving	It is leveled, covered with non-slip material and can sustain the plant weight..
• Illumination	Complies to IEC 60204-1 or local laws that deal with the matter.
• Grounding of electrical equipment	Complies to IEC 60364-1 or local laws that deal with the matter.
• Oleodynamic power unit	It is furnished with TEXACO URSUS viscosity 46 oil or oils with comparable properties. Required quantity: about 100 liters.



If the motors' rotation sense is not correct, invert 2 of the 3 power wires (phases).

In case you need to operate on the electric plant before the main switch (e.g. inversion of phases): disable the line main switch by setting it on "0-OFF", so only the maintenance operator may be able to enable it again.

The starting of the plant for the first time it must be done by our service assistance or by the client's assistance technician, only if they have been trained to do that.

II.1.1 Delivery checks

The plant is partitioned in three primary units:

- Filterpress group
- Silo or decanter group
- Clarified water tank

and supplied along with the necessary supplementary parts (pumps, valves, electrical panels).

The plant is delivered in separate parts covered with heat shrinking nylon.

Upon the packages are written:

- Matec address, name and/or initials
- Client's address, name and/or initials
- Weight of the package in kilograms

Without removing the shock absorbing protections check that:

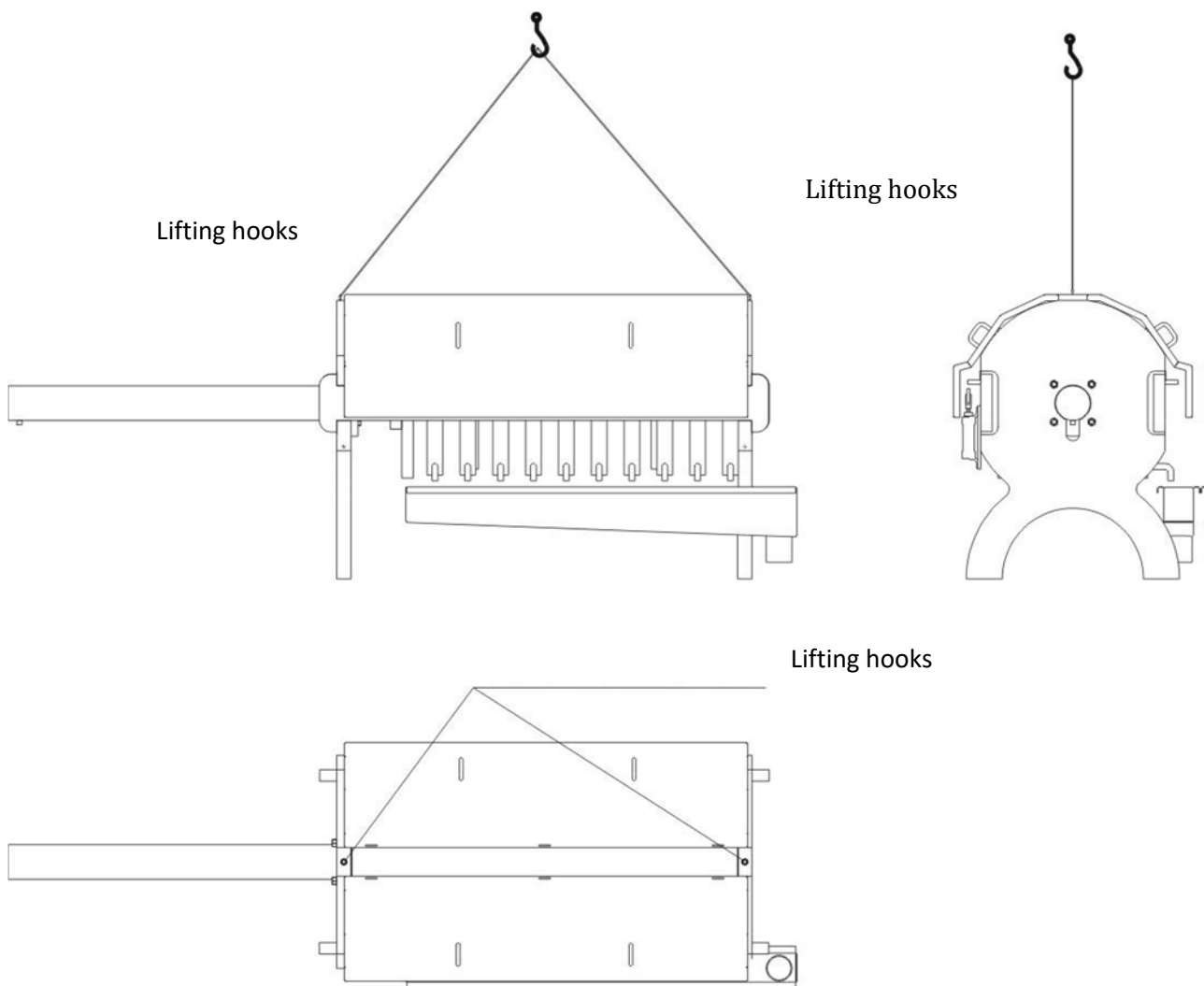
1. There are non abrasions on parts or components of the machine.
2. There are no components or parts of the machine which are damaged or broken.
3. The machine has come together with all the parts of which it is composed.
4. There is the CE marking and that the data are the same agreed upon with the manufacture.

The manual and the conformity assessment are attached to the shipping documentation or in a sealed nylon envelope attached to the machine packaging.



II.2 Preparation for the machine installation

II.2.1 Placing of the filter press



To lift the filter press machine use the dedicated hooks. Avoid collisions or excessive swinging.



Lifting hook of a Terrae
1500x2000 machine

1



2



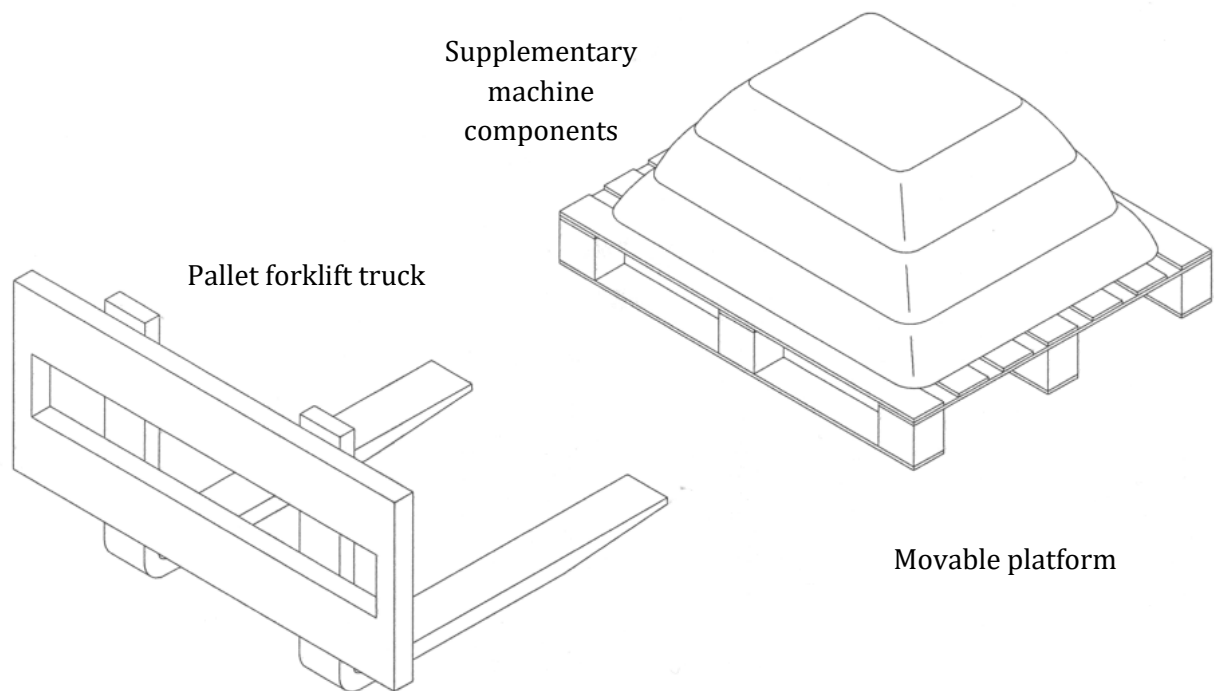
3



Anchor the filter press to the supporting structure



Be careful to anchor only the feeding head, the cylinder head must be let loose.
During the placing operations, be careful not to flatten or crush electric cables.



To lift every movable platform of the supplementary components use a manual or electric forklift truck.

Be sure that the fork is placed right at the center and its shovels long and wide enough to avoid imbalance.



Piling the movable platforms leads to damages to the supplementary components.

II.2.3 Connecting the machinery to the power grid

All the connections between the plant and the power grid must be done according to the local safety and installation legislation.

The power grid must be proportioned to the electric values arranged at the buying time.

The client is in charge of the connection expenses.

II.2.3.1 Specification for the connection to the power grid



The switch on the PLC switchboard does not disable all the electrical connections.

To operate safely it is necessary to switch off the main switch of the plant.

Insert the power cable into the electrical panel by using the connection in the lower side of the junction box. When the cable is inside the electrical panel, connect it to the terminal blocks following the wiring diagrams provided by Matec.

The connection to the electrical grid must be done exclusively using the terminal blocks found inside the electrical cabinet and the ground connection.



Be careful to verify that the transformer is set to the local tension before supplying the power

No sudden changes in voltage should occur and it is vital for the electric cables to be able to sustain the power consumption of the plant: there are 4 minimal



section connection wires(3 phases+1 ground) as according to CE legislation or the technical legislation of the country where the machine is installed.

The main switch that connects the connection wire to the terminal boards must have all the characteristics and devices required by the legislation above.

II.3 Machinery stop

On the electric panel is placed the emergency button. Ifpressed, the emergency button will stop the machinery in three (3) seconds.



The work cycle can be resumed by turning counterclockwise the second emergency button.

Brief stop	The plant has been stopped for less than two months: the work cycle can be resumed without taking any particular precaution.
Long stop	The plant has been stopped for a period longer than two months: before resuming work activity the plant must operate for a few minutes without pressure. By doing so the machinery parts will be lubricated and ready to work.

II.4 Examples of machine misuse

Definition of “misuse”



Whatever use different from the one described in this manual.

Closing the filter press plates with any of the following materials inside them:

- Solid
- Metallic
- Plastic
- Stones

II.5 Examples of “intended use” of the machine

Definition of “intended use” proveniente dalla [direttiva macchine 2006/42/CE](#)



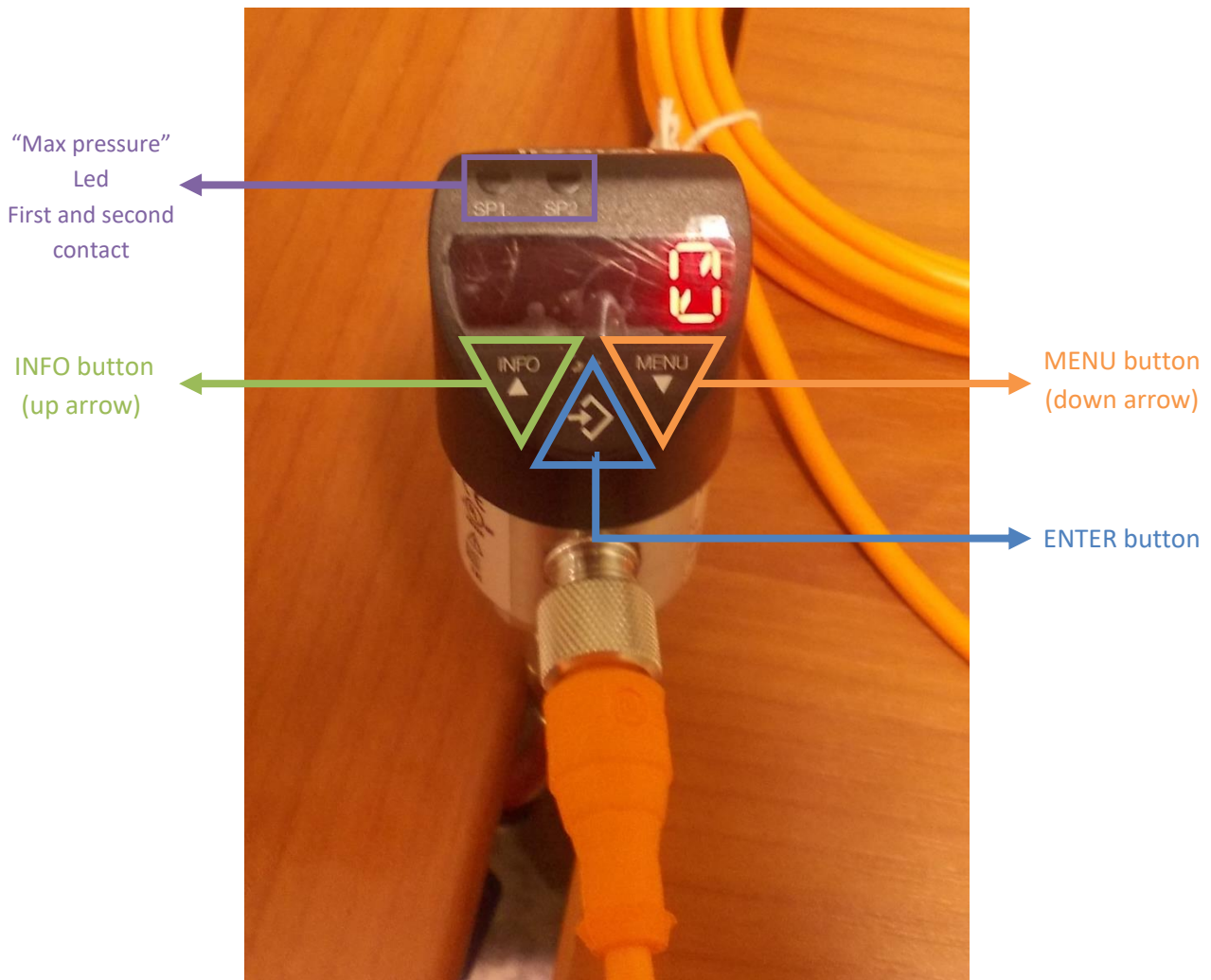
The use of machinery in accordance with the information provided in the instructions for use.

Treatment of sludge or other separable mixtures

II.6.1 Configuration of the NewTT pressure switches and closing of the oleodynamic cylinder

The pressure switches are on the oleodynamic power unit (refer to the images in the dedicated manual of the power unit).

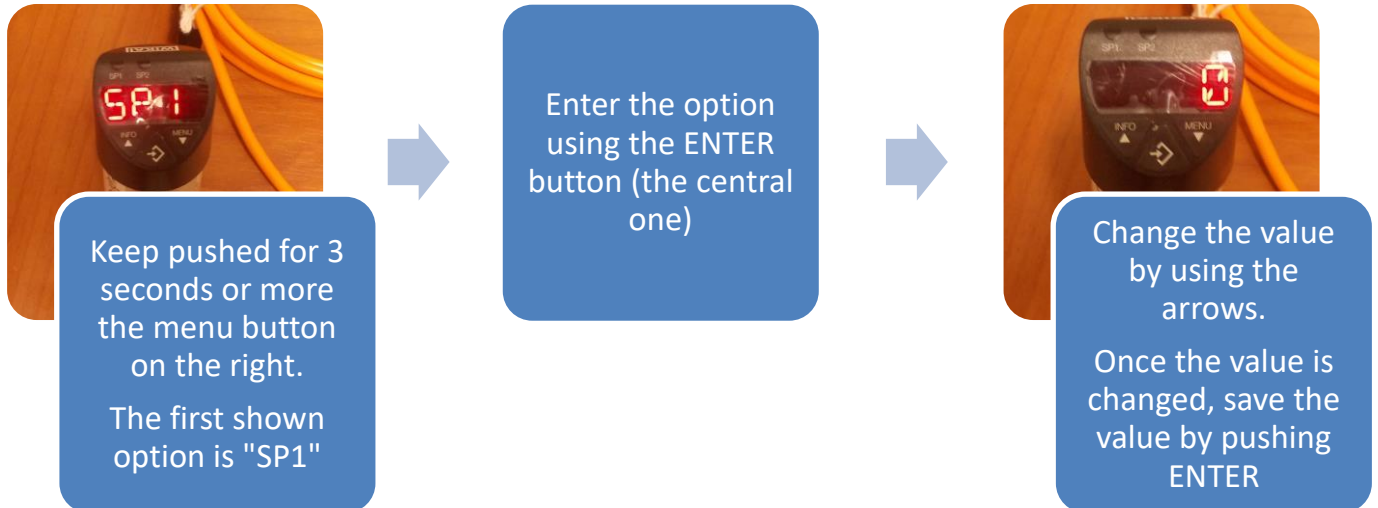
The pressure switches show the measured pressure: in the example below the pressure is 0.



Using the up and down arrows you can through the options and change the values.
Using the central button ENTER you enter the options and confirm the value set using the arrows.



The options which interest us to set the pressure switch are two: “SP1” e “SP2” (respectively the max pressure of the contact 1 and the max pressure of the contact 2). To see the set values or to set the pressure switch:



II.6.1.1 List of the programmable options of the pressure switch



SP1

- First contact max pressure

SP2

- Second contact max pressure



RP1

- First contact pressure reset

RP2

- Second contact pressure reset

If the pressure goes below the RP1 (or RP2) value, the power unit will reset the pressure values to SP1 (or SP2).



EF

- Menu expansion: by pushing ENTER when this option is shown you can access further options (to be used to set the options **OUT1** and **OUT2**)



OU1 – white wire

- Contact exit: you can set it to NO (“normally open”) or NC (“normally closed”)

OU2 – black wire

- Contact exit: you can set it to NO (“normally open”) or NC (“normally closed”)



END

- Menu exit: by pushing ENTER when this option is shown the pressure switch shows the measured pressure

II.6.2 Standard parameters for the pressure switch configuration



The following values are approximate: the real values should be set taking into account the plates quantity, lubrication and temperature of the plant (the oil becomes more liquid if exposed to high temperatures).

II.6.2.1 New TT 1000 Model – Anti-crossing TT opening pressure switch



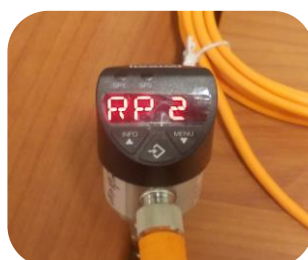
SP1 -> 50



RP1 -> 48



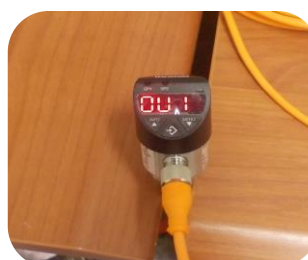
SP2 -> 50



RP2 -> 48



OU1 -> HNC
("normally closed")



OU2 -> HNC
("normally closed")

II.6.2.2 Oleodynamic cylinder pressure switch



SP1 -> 300



RP1 -> 290



SP2 -> 300



RP2 -> 290



OU1 -> HNO
("normally open")



OU2 -> HNO
("normally open")



The switch found on the electrical panel does not disable all of the electric connections.

To operate in safety, it is mandatory to interrupt the power coming from the main source (e.g. circuit breaker).

Before beginning maintenance, remove any bracelet, wristband, watch, ring, necklace or pendant that may hinder or cause harm to the personnel in service.

Definition of “dedicated personnel” according to the [legislative decree of 9th April 2008, n. 81](#)



Who, according to their professional skills and assigned role, supervises the working activity and guarantees the completion of given duties, checking if the workers perform correctly and having initiative powers.



The manual washing of the cloths and the undercloths must be done with a pressure washer and being sure to wash cloths, undercloths and plates carefully.



II 7-1 Cleaning Procedure To Remove Mud Attached To The Lower Part Of The Plates

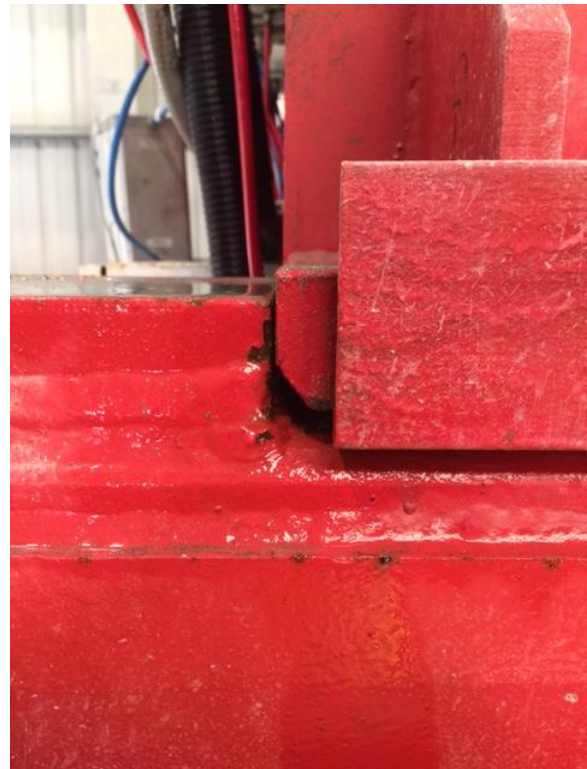
Below, the procedure to follow in case of the presence of mud which has remained attached to the plates:

- 1) Remove the large mud volume by using high volume lower pressure hoses
- 2) Once the mud has been cleared, use the high pressure washer to clean the cloths
- 3) Close the press and check for proper contact at stationary plate, plates lifted from the beam and plate sensor alarm
- 4) If all checks are not clear open the press completely and then close again. Repeat until reaching the proper contact at the stationary plate and for maximum 3 times
- 5) If checks above are not resolved, open the plates to check for hidden cake or built up or other material

Pictures of the stationary plate from the occurrence above can be seen below. Those show the stationary plate being out of alignment and back in alignment after applying the above procedure.



Plate out of alignment



Aligned plate

II.7.2 Maintenance summary table for warranty purpose

Frequeency	What to do	What to use	Suggested products
Daily	Safety devices check	/	/
	Oleodynamic control unit's oil check	/	/
Weekly or every 50-70 cycles	Emergency stop circuits functioning test	/	/
	Gearmotor's oil check	Oil	<i>Agip Telium VFS 320 or similar</i>
	Manual washing (if necessary do the II.8.1 procedure)	Water	/

Monthly	Tightness check	/	/
	Oleodynamic control unit check (every 3 months)	/	/
	Plant clearing	Compressed air, high pressure water and non abrasive degreasing liquids	/
Yearly	Hydraulic control unit's oil refill	Oil	<i>Texaco Ursus 46 o similar with viscosity level 46</i>
	Cloths and under cloths replacement	/	/
	Electrical panel's internal devices efficiency checks	/	/

II.7.3 Cloth replacement

1. Stop the plant 2. Wait until the chamber between the plate are void. 3. Wait until the cylinder has completed the opening of the filter pack. 4. Push the “Emergency stop button” located on the electrical panel	
5. Exhibit the “Service personnel at work” sign (see attachment A)	
6. Remove the worn cloths and under cloths. 7. Wash the plates.	

8. Cover the plates using the new under cloths.



9. Apply the new cloths putting them through the plate hole.



10. Secure the new cloths



**USING SPARE PARTS DIFFERENT FROM MATEC'S
VOIDS THE PLANT WARRANTY**

II.7.3.1 Cloth washing

The washing of the cloths of the filter press may be manual or automatic.

II.7.4 Lubrication

Lubrication must be done only when the plant has been halted.

You can use different lubricant according to the mechanical part that needs to be oiled (for more detailed information see table “Maintenance operations and suggested products”).

Using grease	1. Oil the machinery parts in small amounts: a third of the product used should be enough. 2. Restart the plant and leave it to activity for a few minutes to increase the effectiveness of oiling.
--------------	--

If the plant is used in aggressive environments or not used for extended period we suggest to cover it with waterproof sheet and to lubricate the parts exposed to oxidation.

II.8 Troubleshooting

Alarm shown	What does it mean	What to check	What to do
NONE: SWITCHING THE WORK MODE SELECTOR TO AUTOMATIC AND PRESSING "LINE" BUTTON NOTHING HAPPENS	The machinery might have reached the work cycles number set in the control panel.	/	Touch the "STOP" word which appears on the control panel's touch screen. Once pressed, "STOP" will disappear and the work cycle mode will switch from "cycle count" to "continuous cycle" thus starting a new work cycle in a few seconds.
	The machinery has activated the "filtration time" check and is waiting to resume the work cycle.	/	Wait for the work cycle to be resumed OR If you do not want to wait, set the work mode selector on "MAN" (manual) and then back to "AUT" (automatic).

SHORTAGE OF FILTERED WATER	The PLC is not receiving signals of the presence of filtered water from the filtration probe after the “bypass filtration probe” is expired	Make sure that: 1) Filtered water reaches the probe. 2) The led on the power relay named “CL” is glowing when filtered water reaches the probe. 3) The PLC input line named “filtration probe” is glowing when filtered water reaches the probe.	/
	Water is not reaching the probe.	Make sure that: • The filtering clothes do not receive too much flocculant which may cause them to become waterproof. • No obstructions are occurring in the feeding probe which connects the sludge pump with filter. • No obstructions are occurring on the sludge pump suction pipe. •	Wash repeatedly using a pressure washer with hot water.
CLOSING/OPENING MAX TIME LIMIT	The cylinder has not fully closed the filtering plates group causing the pressure switch, placed on	Make sure that: 1) The cylinder movement	/

	the control unit, to reach the pressure set in the max time limit.	speed is normal, then - Check if any of the oleodynamic pipes are losing oil (control unit and oleodynamic cylinder). - Check the weariness of the gear pump inside the oleodynamic control unit.	
		Make sure that: - The cylinder movement speed is normal, then - Check if the filter reaches the pressure switch's threshold pressure.	- Turn the AUT\MAN switch (Automatic and Manual work mode). - Close the filter pack using the touch screen of the control unit, then - Check that the control unit halts when the pressure switch reaches 280/300 bar. - To stop the control unit - Set the pressure of the pressure switch as the one shown by the pressure gauge.
THERMAL PROTECTIONS	One of the switchboard thermal protections has been triggered maybe resulting from an excessive electrical absorption of the engine connected to it.	Make sure that: - No foreign bodies are impeding the engines rotation. - The sludge pump is not	Measure, with a current clamp, the electrical absorption of the engine after having re-armed the thermal protections.

	If the sludge pump's inverter is available it is likely that an overload has occurred.	experiencing cavitation, recognizable by the loud noises and heavy vibration produced on the filter feeding pipe. 3) One of the engines is not jammed.	2) Compare what measured with the absorption stated on the engine. 3) - If the measured electrical absorption is smaller than what suggested by Matec S.r.l., increase the protection limit using the trimmer. - If the measured electrical absorption is greater than what stated on the engine, get in touch with Matec S.r.l. service centre.
MISSING MUD IN THE TANK	The monitoring function "mud detection" of the silo is disabled. OR The probe "minimum level" has been triggered, blocking the machinery.	Make sure that: - The valve placed beneath the silo opens when the "mud withdraw" probe is triggered. - If the valve opens as it should, then it might be obstructed. - The valve does not open,	If the led and the PLC input are both turned off, then the alarm is referable at the mud discharge solenoid valve (or its power cable). Check with an electrician that the 24V tension gets to the coil. If the led and the PLC are both on, a short-circuit between the probe and

		then check that ○ The “CL level” led of the relay is off (mud lack). ○ The related input on the PLC is off.	the tank is occurring (likely because of water or humidity). • Dry the wired parts and protect the machinery from the elements.
	There is no failure: • The monitoring function “mud detection” of the silo” is on, the probe “minimum level” hasn’t been triggered, and the machinery is on hold because is mud is lacking.	/	/
HIGH PRESSURE ON PLATES OPENING\CLOSING	There is a hindrance between the plates (e.g. some compressed mud is stuck) or some plates crossed some others. • The alarm is triggered by the PLC that during the run has detected an abnormal pressure. The pressure switch has reached the set threshold before the limit switch has been reached by the cylinder.	Make sure that: • The pressure switch is working.	/

II.9 Machinery and waste disposal

The waste and machinery disposal is at the expense of the client who must follow all the necessary rules and procedures in force in its country.

Generally speaking it is wise to:

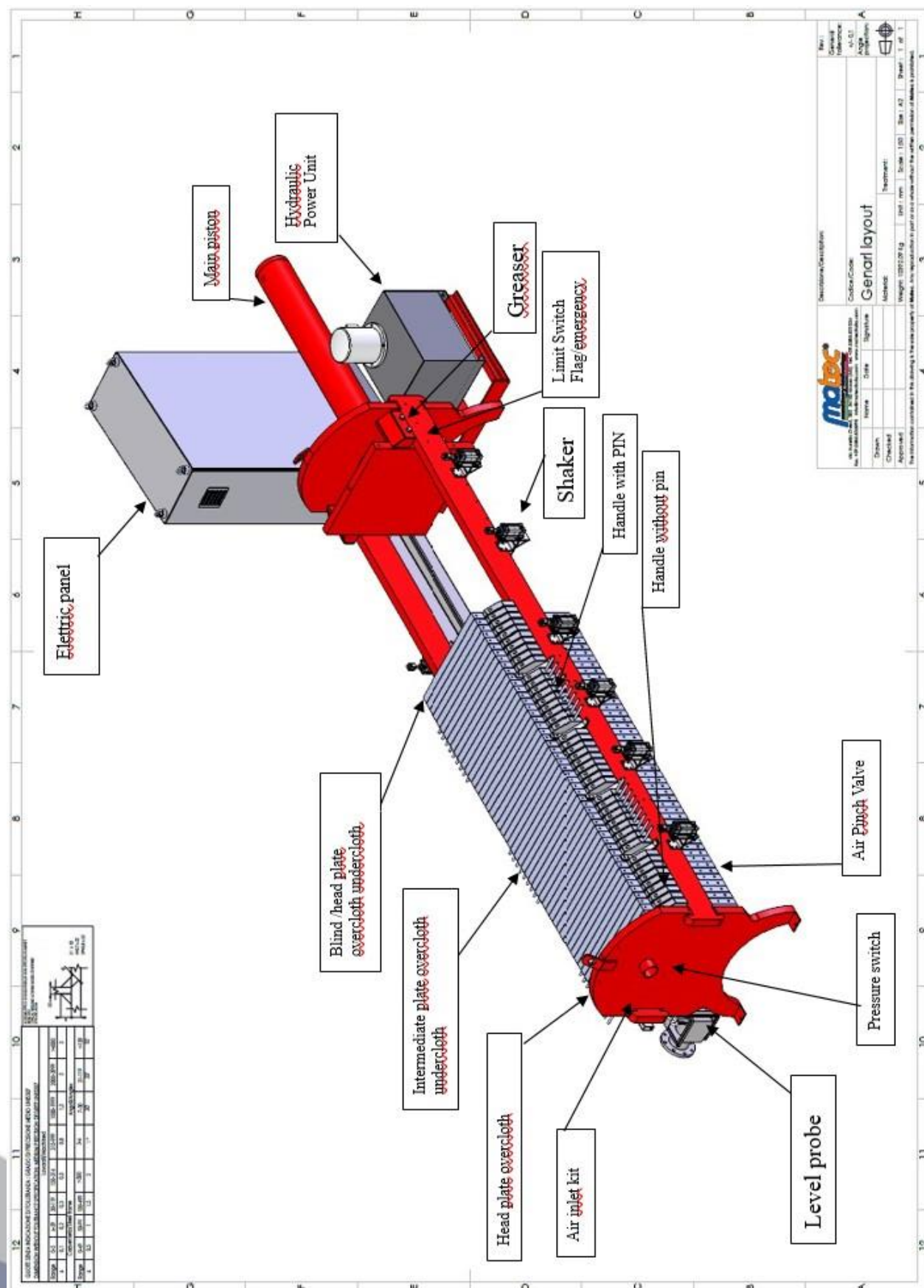
- Not throw away machinery parts.
- Collect and store oils and lubricants used during machinery maintenance.

II.10 Plant demolition

Procedure for the plant demolition:

- 1 Unplug the plant machines from the power and pneumatic grid.
- 2 Comply the current environmental legislation of the country where the plant is.
- 3 Work with the appointed institution for the demolition procedure according to the legislation.
- 4 Continue by disassembling the plant parts.
- 5 Continue with the scrapping according to the local legislation.

II.11 Spare parts



II.11.1 Matec authorized assistance center

The interventions different from maintenance are carried out by our specialized staff.



Not authorized alterations or replacements of one or more supplementary parts of the components of the plant, or the use of accessories, tools and materials which differ from the one recommended by the manufacturer may be dangerous and cause injuries, thus exonerating the manufacturer from any civil or penal responsibilities.

The assistance request must be done to the Matec authorized assistance center; or online at www.matecitalia.com in the dedicated section; or via phone + **39 0585 83 10 34**

Giving:

- Company name
- Reference name
- Machine model and identification number
- Year of installation
- Brief description of the problem
- Photographs if possible

The warranty is subordinated to the notification of possible defects, by attaching a detailed documentation of the problem, and the warranty intervention will be arranged after the verification and acknowledging by the manufacturer.

II.12 Notes

Section III – Annexes

III.1 Annex A – Signage

ATTENZIONE!!
WARNING!!



NON TOCCARE
DO NOT TOUCH

PERSONALE DI ASSISTENZA IN SERVIZIO
SULL'IMPIANTO
SERVICE PERSONNEL AT WORK ON THE
MACHINE

III.2 Annex B – Filter Press machine description



FILTER PACK SIDE BEAM

SHAKERS

CYLINDER HEAD

HYDRAULIC UNIT

CYLINDERS



NEWTT MODULE

NEWTT BAR

FEEDING HEAD



NEWTT CYLINDER

DRAINAGE SYSTEM

III.3 Annex C – Filter Press Machine Specifications

Machine	Filter Press
Model	Ignis FP 500
Treated material	na
Working temperature	Max. 90°C / 120°F
Operation mode	Automatic
Max Hydraulic Pressure	380bar / 5511 psi
Main Cylinder Bore	100 mm
Cylinder Diameter	120mm
Cylinder Stroke	2580 mm
Hydraulic System Motor Power	3 kW
Hydraulic system oil: hydraulic oil with viscosity degree 46	TEXACO URSUS 46 or equivalent
Capacity of the hydraulic system of the filter press	400 lt
Noise level (measured according to our standards)	< 75 dbA (according to UNI 7712 table)
Harmful emissions	None
Power supply	400V. - 50 Hz + grounding (other on request)
International protection	IP 55
Voltage variation	+/- 5%
Auxiliary voltage	24V DC
Wiring	Compliant with C.E

The above indications refer to our standard electrical installation, we recommend to examine electrical drawings supplied with the machine before performing any work. Inappropriate use may damage the equipment which, in turn, may cause dangerous situations for the

personnel. It is therefore advisable to use raw materials with the characteristics specified by the manufacturer. Drawings relating to the electrical installation are conserved inside the main control cabinet. Only maintenance personnel can open the electrical panel.



MATEC SRL – WARRANTY CONDITIONS

Matec Srl ("MATEC") warrants Filterpress, silos, bifang, washing line, hydrocyclone, logwasher, belt conveyor (such items collectively, the "Products") to be free, under normal use and service, of any defects in manufacture and/or materials for a period of 24 months. In addition to the period above, stainless steel tanks the warranty period is 10 years in general but limited to 5 years for carbon steel. There will be a proportional reduction in the duration of the warranty if the machine will be used for daily shifts higher than the recommended use of eight hours a day. Warranty is valid provided that the equipment or system is used correctly, observing the maintenance program described in the Use & Maintenance Manual and has been assembled with the assistance of Matec technicians or other technicians certified by Matec. No warranty shall cover any item on which serial numbers have been altered, defaced or removed. Improper maintenance, improper use, abuse, improper storage, operation beyond rated capacity, or alteration or repair of the equipment by persons not authorized by Matec shall render this warranty null and void.

AUTOMATIC COMMENCEMENT OF WARRANTY: Notwithstanding the foregoing time periods, all Products warranties period will commence on the date of the delivery to the Buyer, regardless of use.

WARRANTY NOTICES:

The warranties provided herein shall only apply if Matec receives written notice of the defect within thirty (15) days of its discovery and Buyer establishes that (i) the equipment has been maintained and operated within the limits of rated and normal usage; and (ii) the defect did not result in any manner from the intentional or negligent action or inaction by Buyer, its agents or employees. If Buyer cannot establish that conditions (i) and (ii) above have been met, then this warranty shall not cover the alleged defect. If requested by Matec, Buyer must return the defective equipment to an authorized Distributor of the Products ("Authorized Distributor") or directly to Matec.

CONTINUE OPERATION AFTER DEFECTS DISCOVERY:

Should the Buyer continue to operate an equipment after it has been noted that a failure has occurred and/or it has been discovered a defective or a worn part, Matec will not be responsible under this or any other warranty.

WARRANTY OBLIGATION:

The obligation and liability of Matec under this warranty is expressly limited to, at Matec's sole option, the repair or replacement (with new or remanufactured parts or components) of any part, which appears, upon inspection by Matec, to have been defective in manufacture or materials.

Warranty does not cover diagnostic time, removal, wages, freight, towing, dock or storage fees, duty or import fees or any other labor charges that may be associated with.

THIS WARRANTY IS EXPRESSLY IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES, EXPRESS OR IMPLIED (INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE) AND ALL OTHER OBLIGATIONS OR LIABILITY ON THE PART OF MATEC. THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE LIMITED WARRANTY CONTAINED HEREIN.

ITEM(S) EXCLUDED:

The following items are **NOT** covered under this Warranty (the following list is not exhaustive):

- Filter cloths and or Net for screening
- Pump impeller and wear parts
- Lubrication
- Hoses
- Electrical and electronic components if connected to an electrical system not compliant with the technical standards required.
- Any other consumable items supplied with the Products.

NON-AUTHORIZED DISTRIBUTOR SALES:

Items sold by any individual, corporation, partnership, auction entity or any other organization or legal entity that is not Matec or an Authorized Distributor are not covered by this warranty conditions or any other Matec's warranty obligation.

NON-MATEC COMPONENTS:

Components which are not manufactured by MATEC are not covered by this warranty. Such components are covered only by the warranty that is provided by their manufacturer.

MATEC does not make any warranty, express or implied, that any attachments or other products manufactured by parties other than MATEC will function properly with a MATEC Product, or that any such attachments or products will not be damaged or cause damage to a MATEC Product when used with such Product.

Cloths from different supplier will be cause several and dangerous problems to the installation and immediately expire the warranty.

MAINTENANCE SERVICES AND WEAR PARTS:

Maintenance services and wear parts are excluded from warranty claims.

TRANSPORTATION:

Any damage caused by carrier handling is a transportation claim and should be filed immediately with the respective carrier. Matec does not assume any liability regarding any kind of transportation claim.

DETERIORATION:

Repairs, work required or parts exposed as the result of age, storage, weathering, lack of use, demonstration use, or for transportation of corrosive chemicals are not covered by this warranty conditions or any other Matec's warranty obligation.

WORKMANSHIP OF OTHERS:

Matec does not accept responsibility for improper installation or labor costs of personnel other than Matec personnel.

NO INCIDENTAL OR CONSEQUENTIAL DAMAGE:

MATEC SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND, INCLUDING, BUT NOT LIMITED TO, LOST PROFITS, LOSS OF PRODUCTION, INCREASED OVERHEAD, LOSS OF BUSINESS OPPORTUNITY, DELAYS IN PRODUCTION, COSTS OF REPLACEMENT COMPONENTS AND INCREASED COSTS OF OPERATION THAT MAY ARISE FROM THE BREACH OF THIS WARRANTY, WHETHER OR NOT CAUSED DIRECTLY OR INDIRECTLY BY ANY NEGLIGENCE OF MATEC.

The Buyer's sole remedy shall be limited to (at the sole option of MATEC) repair or replacement of the defective part.

MAXIMUM AGGREGATE LIABILITY

Matec maximum liability for damages shall in no event exceed the purchase price of the equipment.

NO AMENDMENT OR MODIFICATION OF THIS WARRANTY:

No amendment or modification to this warranty shall be authorized or effective unless such amendment or modification has been made in writing and signed by an authorized MATEC employee.