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USER'S GUIDE



CE

MACISYE

Dear Customer,

Thank you for choosing us, we remind you that this manual contains all the necessary information for a correct use and maintenance of the machinery.

We suggest you to read carefully this manual before proceeding with the installation.

These instructions must always be kept close to the product's operating location or directly with the product.

These instructions are intended to facilitate familiarization with the product and its use.

Operating the product in compliance with these instructions is important to ensure reliability in service and avoid risks.

The instructions may not take into account local regulations; ensure such regulations are observed by everybody, including the people installing the product.

Always coordinate repair activity with technicians, and follow all plant safety requirements and applicable safety and health laws and regulations.

These instructions should be read prior to installing, operating, using and maintaining the equipment in any region worldwide. The equipment must not be put into service until all the conditions relating to safety noted in the instructions have been met.

For any kind of problem we are available for any clarifications to optimize the use of the machine itself.



Publication made by: INTERSER s.p.a.

Edition: 2011

Revision: 2.0.0

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All the rights of reproduction of this manual are reserved to INTERSER; the reproduction, even partial, is forbidden.

The descriptions and images are not binding. We reserve the right to make all the appropriate modifications to improve this manual at any moment.

The present manual is:

- integrating part of the supply and must be read carefully for a correct use, in compliance with the essential safety requirements and laws;
- elaborated according to the disposition of the Machine Directive 2006/42 EC, it contains the necessary information to perform correctly all the procedures in safety conditions;
- please take good care of it (protected in a transparent tin cover to avoid its deterioration); the pump must be accompanied by the related manual during all its life, included any possible transfer of property.

In case of loss or deterioration it is possible to receive a copy by making a request to INTERSER and copying the data written on the identification label.

INTERSER declines any responsibility for damage caused by operations not included in this manual.

MAGISYE



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1 - GENERAL AND SAFETY INFORMATION

List of symbols used in the manual

Symbols which indicate dangerous situations or very important information.



Caution!

It indicates dangerous situations.



Warning!

It indicates dangerous situations for the machine and/or for the product in process



REMARK

It indicates useful information for manual consulting and for the good functioning of the machine.

Symbols indicating information related to skilled operators.



Maintenance

It indicates the procedures of ordinary and programmed maintenance falling within the mechanical or electric maintenance operator's responsibility.



Skilled technician

It indicates the installation procedures, startup and /or extraordinary maintenance (of electric/mechanical type) falling within the responsibility of a technician employed or authorized by INTERSER





General Information

The present manual refers to:

AIRLESS SYSTEM FOR THE APPLICATION OF GLAZE, ENGOBES AND CRISTALLINE mod. MACISTE

This manual contains information related to the use, maintenance, disassembly and surveillance of the machine; thus it must be considered integrating part of the machine itself, and it must be kept carefully until the final dismantlement of the MACISTE pump.

In case of damage which will not allow any further use, this manual can be returned to the manufacturer.

The present manual represents the real conditions of the machine and cannot be considered inadequate only because subsequently updated according to new improvements.

The manufacturer reserves the right to update the production of the above-mentioned machine without being obliged to inform the users of the machines previously supplied. Any notification of modifications must be considered a courtesy .

In any case our customer service remains at the users' disposal.

The seller is relieved of any responsibility referring to:

- Improper use of the machine;
- Use against the specific laws;
- Incorrect installation;
- Feeding defects;
- Serious lack of maintenance;
- Modifications and interventions that are not authorized or supervised by our technician;
- Use of spare parts that are not original or authorized by the supplier of the machine;
- Total or partial non-observance of the instructions;
- Exceptional events.





General information about the safe use of the machine

- Read carefully the manual and do not start the machine if breakdown occurs.
- Do not allow unauthorized personnel to put it into service/use it;
- Before the startup, check the possible existence of dangerous conditions for the machine or the involved personnel;
- Be sure that all covers are in their places and that all safety devices are working and efficient;
- Pay attention to eventual extraneous objects placed in the machine working field;
- Eventual maintenance operations must be performed with the machine turned-off;
- If there is the possibility to be hit by spatter or by the falling of solid or similar parts, use glasses with lateral blinkers, helmets, gloves or other means for individual protection;
- Although the machine is not noisy, it can require the use of protections against high noise because of the sound pressure level of the environment where the machine is installed.
- Eventual service on the machine electric equipment must be performed by highly skilled personnel, in compliance with the safety rules.



Information and features

The pump has been realized for different types of ceramic mixtures in suspension.

The used slips must not be aggressive for the materials constituting the pump, they must not produce toxic fumes dangerous for people's health, and they must not produce particular additional dangers such fires.

In case you use substances that do not respect these requirements, it will be necessary to take suitable solutions in accordance with the manufacturer.

Only the personnel trained on the features of the machine and informed about the content of this manual must operate it.





Warranty and exclusions of the responsibility

All the clauses of the warranty are indicated in the sales contract. The warranty is subordinated to the following conditions:

- the machine must be used within the limits declared in the contract and indicated in the present manual.
- the machine must be used following the manual instructions;
- maintenance must be carried out in accordance with the time and ways written in this manual, using original spare parts and assigning the service to skilled worker.


The seller declines any responsibility deriving from:

- improper use by unauthorized or untrained staff;
- partial or total non-observance of the instructions;
- defects of the working environment (paving not conform with the specifications planned, excessive lighting, excessive temperature and humidity);
- lack of maintenance;
- pollution from outside the machine;
- unauthorized modifications or repairs;
- use of non-original spare parts;
- exceptional events such as earthquakes, flooding or fire.

Identification label

On the machine there is a label showing the identification data of the machinery; whenever there is the need of any service or information request, it is necessary to communicate the data present on this label to precisely individuate the model.

The present label is the official reference for all applicable warranty conditions:

	
MACISTE	
Modello / Type	
Matricola / Serial Number	
Anno / Year	
KW	
Volt	
Non rimuovere / Not remove	<i>Made in Italy</i>

It is forbidden to remove, damage or modify the data on the label.

MACISTE





Individual protection devices and safety rules

To operate the machine you must wear the proper individual protection devices (D.P.I.), such as gloves, proper shoes and so on, following the rules of the country or the single regulations of the plants.

On the present manual the suggested individual protection devices for the various service/use are signaled with proper symbols on the machine.



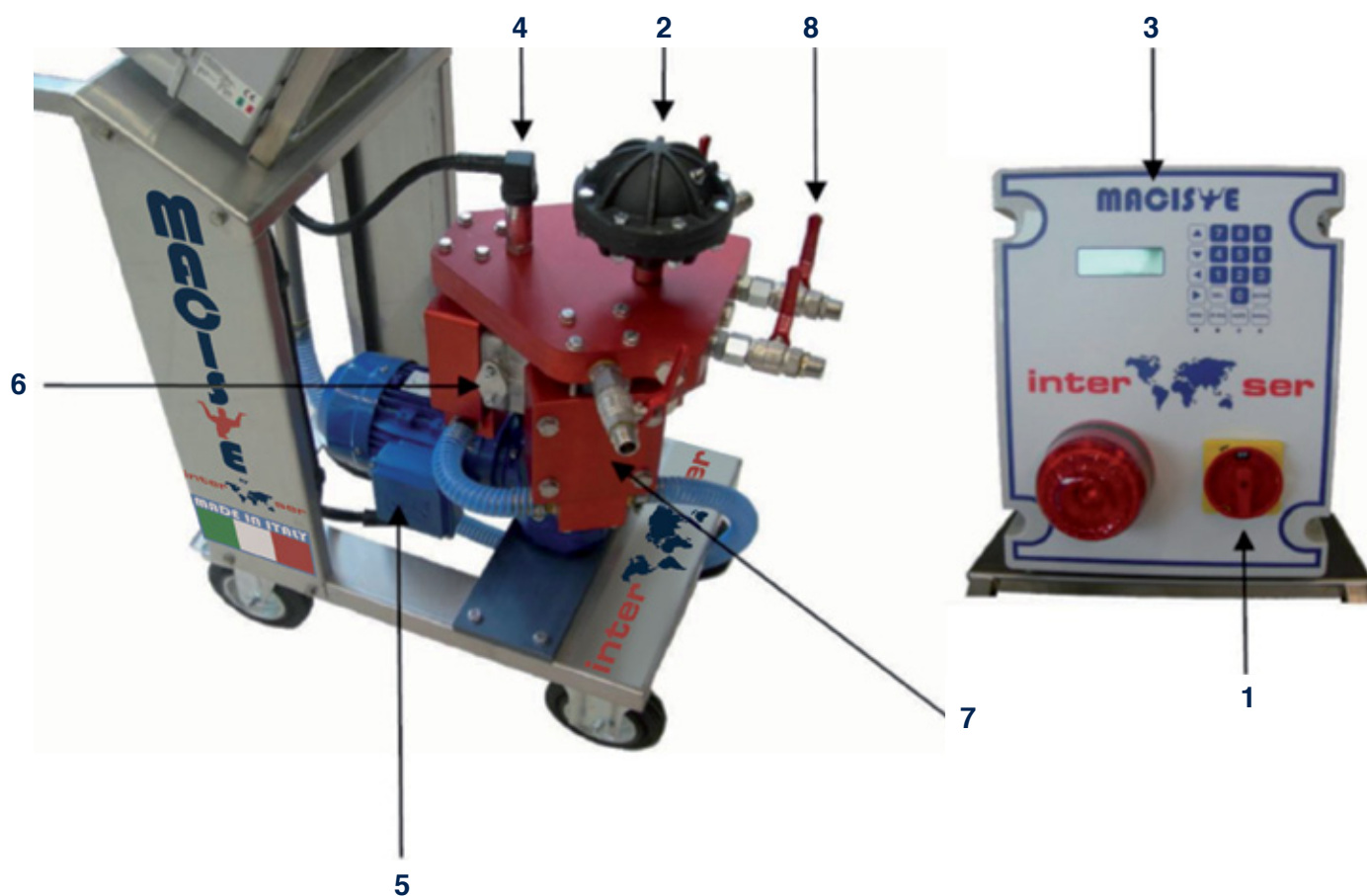
To prevent eventual accidents, it is obligatory to use always the individual protection devices, without underestimating any situations or any service on the machinery, which can cause serious accidents if imprecise or awkward.



2) DESCRIPTION OF THE MACHINE

GROUPS COMPOSING THE MACHINE

Below it is illustrated an explicative scheme of the whole machine with the list of the main components forming it, useful for a fast individuation of the components.

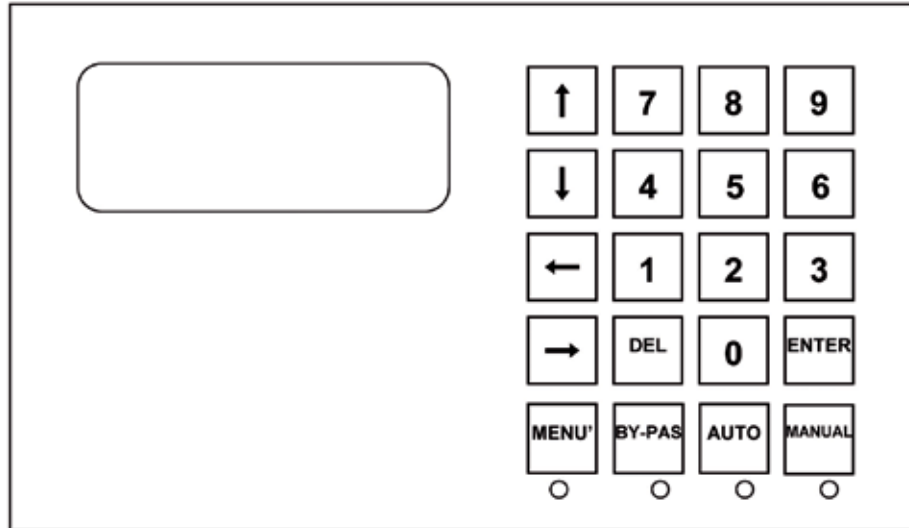


(pictures refer to a prototype and may be slightly different from production model)

- 1 - Main switch
- 2 - Pulse damper (keep it at a pressure lower than the working one, see chart at page 15)
- 3 - Electrical board
- 4 - Pressure sensor
- 5 - Electric motor
- 6 - Lubrication Oil Plug (the oil is not in pressure, it is only for the lubrication of pistons rod)
- 7 - Pump group
- 8 - Taps



Keyboard panel



		SCROLL THROUGH FUNCTIONS PAGES
		SCROLL DATA VALUE OF SELECTED FUNCTION / INCREASE AND DECREASE PRESSURE IN AUTOMATIC MODE
		RESET VALUE AND EXIT FROM CURRENT FUNCTIONS
		CONFIRM / STORE THE VALUE
		RECALL SUB-MENU SECTION
		BY-PASS MODE
		AUTOMATIC MODE (CONTINUOUS OPERATING CYCLES)
		MANUAL MODE



General description of the machine

The machine is designed for pumping abrasive products such as ceramic glazes, crystalline, engobes, slips, water and so on.

The great power and strength of the pumping group, together with the automatic electronic control of the pressure, make it a very reliable and easy to use product.

The heart of the system is an electro-mechanical pump with 3 pistons that are 120° out of phase with each other that move three plunger seals allowing perfect flux linearity, a condition thus granting an absolute constancy in the grams of glaze applied.

The high achievable pressure allows the best nebulization of the glaze, even at very high density, allowing then a perfect glazing, which identifies in mirror covering surfaces.

Technical features

Technical Features:

Min Pressure 2 Bars With 1 Single Nozzle

Max Pressure 20 Bars

Ready to work with 4 or 6 Nozzles

Capacity 2 - 15 lt./min

Manual or automatic flow control mode

Power 0.75 Kw

Voltage and frequency: upon request

Structure in stainless steel AISI 304

Wheels dim. 150 mm

Stainless steel pipe with Filter

Self-priming Pump



Technical specifications

The machine must absolutely be operated by skilled personnel informed about the whole content of this manual. The machine, in fact, must not, under any circumstances, be used for other purposes than those for which it was designed.

The personnel designated to operate the machine must wear the proper individual protection devices; all the normal safety regulations in force in the country must be adopted.

It is forbidden to use the machine for glazing:



- Before the plant in which the machinery will operate is declared conform to the national directives in force.
- In explosive atmosphere or in places where fire risk exists.
- If it has not been correctly installed.
- With damaged or missing safety devices.

Any other use of the machine is considered improper or not planned, therefore dangerous.

The use of the machine for different purposes or to obtain production values higher than the planned ones, is considered improper use.

It is forbidden to use the machine for glazing:



- Materials different from ceramic pastes.
- Injurious, toxic or radioactive substances.
- Substances which, if glazed, can cause fire or explosion.
- Substances whose nature causes the risk of biologic or microbiologic contamination.

The use of the machine with other materials is considered improper or not planned, therefore dangerous.





3) QUICK START – FIRST USAGE

Installation

ELECTRICAL CONNECTIONS AND HABILITATIONS

Electrical Board feeding

Feeding three-phase connection 400 V a.c. 50 / 60 Hz: to be connected as indicated in the electrical diagram manual.

Relay line block connection

To be connected as indicated in the electrical diagram manual.





Working Environment

It is necessary to make the access to the machine command devices safe and comfortable.

CAUTIONS FOR A CORRECT MACHINERY STARTUP

Even if the machinery is subjected to a test before the delivery, it is necessary to check the tightening torque and the seal of all the installation elements before starting it.

Furthermore, the pressure is adjusted to a max of 20 Bars; we suggest setting it for the final specific use by performing some tests on the final production.

1. Check proper installation of hoses and spray guns
2. Check electrical connections
3. Open the taps only after connecting them to the high pressure hoses with spray guns and nozzles.
4. Plunge the suction pipe into the container of the liquid/glaze you wish to suck up.
The glaze used must have been previously sieved with a net of at least 2000 meshes.
Before first use of a new pump we suggest performing a cleaning cycle by plunging the suction hose into clean water and, according to the instructions at page 17, letting the pump run for some minutes (at least 10 minutes)
5. Start the machine acting on the MAIN switch.
6. Choose the desired working mode (Automatic/Manual/Semi-automatic) and follow the working procedures as shown in the following pages (17, 19 and 20).
For example:
 - Set AUTOMATIC mode by pushing AUTO button, set the desired pressure with Arrow buttons  
wait for the pump to charge and reach the desired pressure before starting work.
 - Or push MANUAL for manual mode and set the pressure by using the keypad and press AUTO to start the pump that will charge and reach the desired pressure before starting work.
7. AFTER HAVING REACHED THE DESIRED PRESSURE, THE PUMP NEEDS TO WORK FOR 60 SECONDS TO “LEARN” THAT THIS IS THE WORKING PRESSURE; after that, if there are any pressure or flow rate changes due to any failure, the alarm will advise the operator.
8. Make some tests to achieve the desired glaze grams on tiles by changing the following settings: pump pressure acting with   buttons; height of spray guns from tiles; distance between each spray gun; nozzles type (degrees and holes dimension).

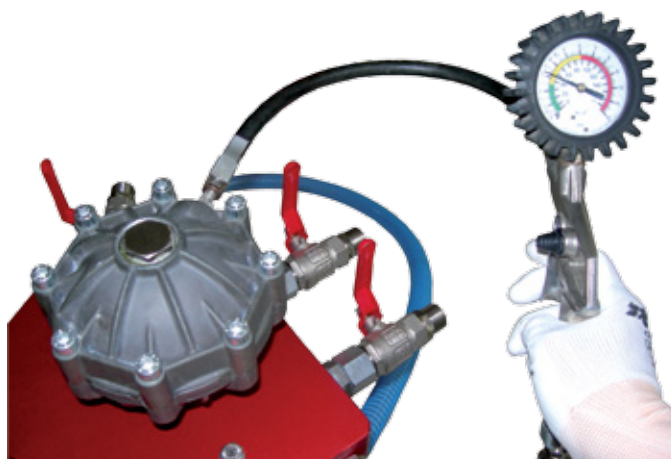


9. If needed you can change the pulse dumper pressure to help the pump in keeping constant flow rate pressure; the dumper pressure must be lower than working pressure.

Factory dumper pressure is 5 Bars.

DUMPER PRESSURE MUST BE CHANGED/SET WITH THE MACHINE STOPPED; the pressure is controlled by the valve on the accumulator and you can deflate or inflate it with compressed air and a manometer or an air tire gun.(see chart below for some examples of pressures)

WORKING PRESSURE	SUGGESTED DUMPER PRESSURE
From 2,0 Bar to 3,0 Bar	1,8 Bar
From 3,1 Bar to 5,0 Bar	2,5 Bar
From 5,1 Bar to 7,0 Bar	4,5 Bar
From 7,1 Bar to 20,0 Bar	6,0 Bar



“You can inflate or deflate the accumulator just like a bicycle tire”

Machine stop and cleaning:

To stop the machine you should operate the proper switch placed on the command electrical board, bringing it back into the original position 0 (OFF)

BEFORE STOPPING THE MACHINE ALWAYS PERFORM A WASHING CYCLE WHEN YOU FINISH WORKING
To perform the pump cleaning, you can enter the terminal cleaning page (PUMP CLEANING) or continue working in automatic and plunge the suction pipe into clean water, letting it circulating inside the pump for some minutes until it is clear at the output.

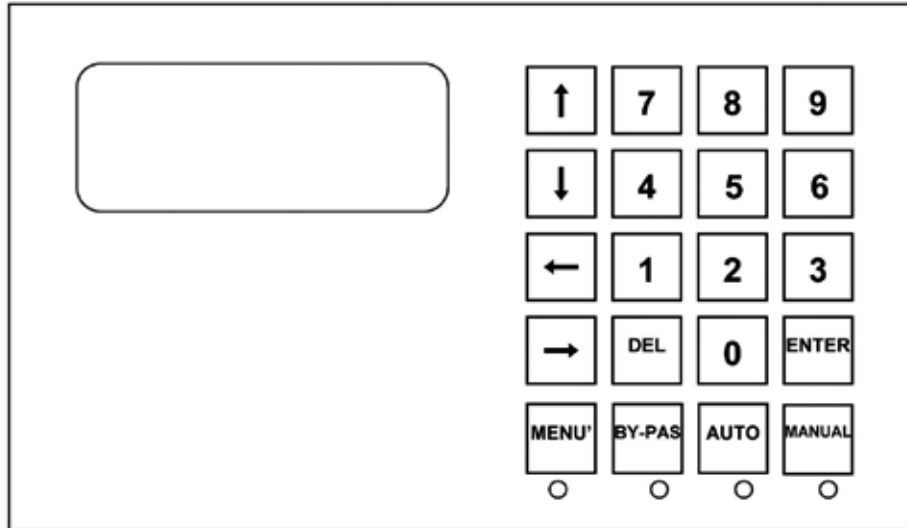
Stop the pump leaving inside an adequate quantity of clean water.

The working pressure can be adjusted according to the nozzle diameter; furthermore, for a longer life of the plunger seals, you may avoid the idle working of the pump, both during normal use and cleaning.

BEFORE FIRST USE OF A NEW PUMP WE SUGGEST PERFORMING A CLEANING CYCLE BY PLUNGING THE SUCTION HOSE INTO CLEAN WATER AND, ACCORDING TO THE INSTRUCTIONS AT PAGE 17, LETTING THE PUMP RUN FOR SOME MINUTES (AT LEAST 10 MINUTES)



4) FUNCTIONS OF PUSHBUTTONS ON KEYBOARD



		SCROLL THROUGH FUNCTIONS PAGES
		SCROLL DATA VALUE OF SELECTED FUNCTION / INCREASE AND DECREASE PRESSURE IN AUTOMATIC MODE
		RESET VALUE AND EXIT FROM CURRENT FUNCTIONS
		CONFIRM / STORE THE VALUE
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		BY-PASS MODE
		AUTOMATIC MODE (CONTINUOUS OPERATING CYCLES)
		MANUAL MODE

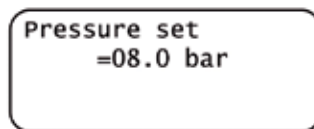




5) MANUAL MODE PAGE DESCRIPTION

5.1 – Working pressure set

1. Check proper installation of hoses and spray guns
2. Check electrical connections
3. Open the taps only after connecting them to the high pressure hoses with spray guns and nozzles.
4. Plunge the suction pipe into the container of the liquid/glaze you wish to suck up.
The glaze used must have been previously sieved with a net of at least 2000 meshes.
Before first use of a new pump we suggest performing a cleaning cycle by plunging the suction hose into clean water and, according to the instructions at page 16, letting the pump run for some minutes (at least 10 minutes)
5. Start the machine acting on the MAIN switch.
6. Push MANUAL for manual mode and, if it is not displayed, reach the following screen with buttons



Set pressure [2 - 20 bar]

In this screen enter the needed working pressure by using the numeric keypad and confirm the data with the ENTER key.

Pushing the AUTOMATIC key the machine will start working, after the Pump loading time (40 Sec.) The pump will reach the pressure set in few seconds.

7. AFTER HAVING REACHED THE DESIRED PRESSURE, THE PUMP NEEDS TO WORK FOR 60 SECONDS TO “LEARN” THAT THIS IS THE WORKING PRESSURE; after that, if there are any pressure or flow rate changes due to any failure, the alarm will inform the operator.

8. Make some tests to achieve the desired glaze grams on tiles by changing the following settings: pump pressure acting with buttons; height of spray gun from tiles; distance between each spray gun; nozzles type (degrees and holes dimension).




9. If needed you can change the pulse dumper pressure to help the pump keeping flow rate pressure constant; the dumper pressure must be lower than the working pressure.
Factory dumper pressure is 5 Bars.

DUMPER PRESSURE MUST BE CHANGED/SET WITH THE MACHINE STOPPED

the pressure is controlled by the valve on the accumulator and you can deflate or inflate it with compressed air and a manometer or an air tire gun.(see chart at page 14 for some examples of pressures)




5.2 – Washing cycle

1. Check proper installation of hoses and spray guns
2. Check electrical connections
3. Open the taps only after connecting them to the high pressure hoses with spray guns and nozzles.
4. Plunge the suction pipe into the container of clean water
5. Start the machine acting on the MAIN switch.
6. Push  MANUAL for manual mode and, if it is not displayed, reach the following screen with   buttons

Washing speed
=040 Hz(20-99.9).
Washing time
=40 sec

Washing speed [20 – 99.9 Hz]
Washing time [05 – 999 sec]

In this screen insert the desired washing time by using the numeric keypad.




Confirm the time with  ENTER, the pump will start the washing cycle and will automatically stop after the time set.

BEFORE STOPPING THE MACHINE ALWAYS PERFORM A WASHING CYCLE WHEN YOU FINISH WORKING

BEFORE FIRST USE OF A NEW PUMP, WE SUGGEST PERFORMING A CLEANING CYCLE BY PLUNGING THE SUCTION HOSE INTO CLEAN WATER AND, ACCORDING TO THESE INSTRUCTIONS, LETTING THE PUMP RUN WITH CLEAN WATER FOR SOME MINUTES (AT LEAST 10 MINUTES)



5.3 – Boost speed and time

1. Start the machine acting on the MAIN switch.
2. Push  MANUAL for manual mode and, if it is not displayed, reach the following screen with   buttons

```
Boost speed
=50.0 Hz(15-80.0)
Boost time
=010 sec
```

BOOST SPEED [05.0 – 80.0 Hz]

Sets the pump starting speed at machine startup

BOOST TIME [7.0 – 99.0 sec]

Sets the time for which the pump has to maintain the boost speed at startup

5.4 – Stand by

1. Start the machine acting on the MAIN switch.
2. Push  MANUAL for manual mode and, if it is not displayed, reach the following screen with   buttons

```
STAND-BY
T.Ftc off=060 Sec
F.Standby=15 Hz
```

TIME OFF PHOTOCCELL [030 – 600 sec]

Sets the time that should elapse between the moment the photocell fails to read the passage of any tile and the moment the machine goes in stand-by (STAND – BY Mode)




STAND-BY FREQUENCY [05 – 50 Hz]

Sets the working frequency for stand-by mode

REMARK: Stand-By photocell is optional




5.5 – Menu language selection

1. Start the machine acting on the MAIN switch.
2. Push  MANUAL for manual mode and, if it is not displayed, reach the following screen with   buttons


```
0:Ita.  1:Eng.  
2:Spa  
Select. Lang. =0
```

SELECT LANGUAGE

Sets menu language by using the keypad: 0=ITA , 1=ENG , 2=SPA Then press  ENTER.











6) AUTOMATIC MODE PAGE DESCRIPTION

1. Check proper installation of hoses and spray guns
2. Check electrical connections
3. Open the taps only after connecting them to the high pressure hoses with spray guns and nozzles.
4. Plunge the suction pipe into the container of the liquid/glaze you wish to suck up.
The glaze used must have been previously sieved with a net of at least 2000 meshes.
Before first use of a new pump we suggest performing a cleaning cycle by plunging the suction hose into clean water and, according to the instructions at page 16, letting the pump run for some minutes.
(at least 10 minutes)
5. Start the machine acting on the MAIN switch.
6. Push  AUTO for AUTOMATIC MODE



Automatic mode

In automatic mode the system recalls the last working pressure used/set
In automatic mode the display shows the real output pressure detected by the pressure transducer.
Set the desired working pressure by pressing   buttons
With the key   is possible to increase or decrease the working pressure.
The displayed real pressure will change in real time while pressing  
until the pressure displayed is the desired one

7. AFTER HAVING REACHED THE DESIRED PRESSURE, THE PUMP NEEDS TO WORK FOR 60 SECONDS TO “LEARN” THAT THIS IS THE WORKING PRESSURE; after that, if there are any pressure or flow rate changes due to any failure, the alarm will inform the operator.
8. Make some tests to achieve the desired glaze grams on tiles by changing the following settings: pump pressure acting with   buttons; height of spray guns from tiles; distance between each spray gun; nozzles type (degrees and holes dimension).
9. If needed you can change the pulse dumper pressure to help the pump keeping flow rate pressure constant; the dumper pressure must be lower than the working pressure.
Factory dumper pressure is 5 Bars.
DUMPER PRESSURE MUST BE CHANGED/SET WITH THE MACHINE STOPPED; the pressure is controlled by the valve on the accumulator and you can deflate or inflate it with compressed air and a manometer or an air tire gun.(see chart at page 14 for some examples of pressures)

At the pressure set also the working frequency [Hz] is displayed
It is useful to keep note of the frequency in case of pressure sensor failure
It is possible to set the frequency in BY-PASS mode and have the same desired output pressure.

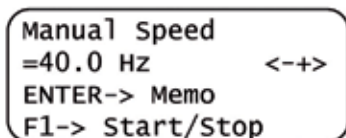






7) BY-PASS MODE PAGE DESCRIPTION

WARNING!!! USE ONLY IN CASE OF PRESSURE SENSOR FAILURE

If you have taken note of the working frequency [Hz] at the set pressure shown in the automatic mode screen while pressure sensor was working, it is possible to set the frequency in BY-PASS mode and get the same desired output pressure.



MANUAL POTENTIOMETER / SPEED

In case of **pressure sensor failure** it is possible to continue working in semi-automatic (BY-PASS) mode, setting the frequency manually with the key  

REMARK: When you switch on the pump, set an optimum frequency for charging. Once the loading is finished, it is possible to work in BY-PASS mode.





8) SUB - MENU

**WARNING!!! AUTHORIZED PERSONNEL ONLY!!!
NOT ACTIVE PAGE**

For the submenu
Enter Password
=00000

For the sub-menu Enter Password

This is a manufacturer menu for development, tests and factory setting: **Do not use**

To EXIT from this page press:

00000

Then

ENTER 

Then

DEL 



9) MESSAGES and ALARM



In automatic mode, the machine loads before reaching the set pressure. (40 Sec.)



The pump could not load the glaze

Push  to quit alarm sound, and perform the following troubleshooting:

- Check the presence of glaze in the tank and that it is loaded correctly.
- Check that the filters are not clogged and that there are no obstructions.
- Check the inverter.
- Check the various PLC connections.

After any repairs restart working following the instructions for
MANUAL MODE page 16 or AUTOMATIC MODE page 20
If an alarm situation persists, please contact the technical assistance





The machine could not reach the pressure set.

Push  to quit alarm sound, and perform the following troubleshooting:

- Check the presence of glaze in the tank and that it is loaded correctly.
- Check that the filters are not clogged and that there are no obstructions.
- Check the inverter.
- Check the various PLC connections.

After any repairs restart working following the instructions for
MANUAL MODE page 16 or AUTOMATIC MODE page 20
If an alarm situation persists, please contact the technical assistance



The pressure has overcome the tolerance range. (15%)

Push  to quit alarm sound, and perform the following troubleshooting:

- Check that the nozzles are not partially or entirely obstructed.

After any repairs restart working following the instructions for
MANUAL MODE page 16 or AUTOMATIC MODE page 20
If an alarm situation persists, please contact the technical assistance





The frequency has gone above the maximum allowed value beyond the tolerance time.

Push  to quit alarm sound, and perform the following troubleshooting:

- Check the inverter.
- Check the presence of glaze.
- Check that the filters are not clogged or that there are no obstructions.
- Check the various PLC connections.

After any repairs restart working following the instructions for
MANUAL MODE page 17 or AUTOMATIC MODE page 21
If an alarm situation persists, please contact the technical assistance



The frequency has gone below the minimum allowed value beyond the tolerance time.

Push  to quit alarm sound, and perform the following troubleshooting:

- Check the inverter.
- Check that the nozzles are not partially or entirely obstructed,.
- Check the various PLC connections.

After any repairs restart working following the instructions for
MANUAL MODE page 16 or AUTOMATIC MODE page 20
If an alarm situation persists, please contact the technical assistance





REMARK: active message only with the optional Saver Pump Kit

The lubricating oil of the pistons is finished or a plunger seal has broken.

Push  to quit alarm sound and perform the following troubleshooting:

- If the oil is finished, fill in the tank up to the maximum level tick.
- If a plunger seal has broken, open the pump and replace it with a new one.

After any repairs restart working following the instructions for
MANUAL MODE page 16 or AUTOMATIC MODE page 20
If an alarm situation persists, please contact the technical assistance





10) MAINTENANCE

To optimize the product quality and the life of the machine, you should follow the maintenance rules below.

***CHECK PERIODICALLY THE OIL LEVE**

***EVERY TWO YEARS PERFORM A COMPLETE OIL CHANGE: OIL SAE 10W 40**

***CHECK THE PERFECT STATUS OF THE PIPING SUBJECTED TO HIGH PRESSURES**

***CHECK THE GENERAL STATUS OF THE PUMP AND KEEP CLEAN THE PARTS SUBJECTED TO MAJOR USE**

***CHECK THE PRESSURE OF THE PULSE DUMPER -PERFORM THIS CHECK WITH MACHINE STOPPED**

***CHECK THAT THE HOSES ARE TIGHTENED**

***CHECK THAT ALL SCREWS AND BOLTS ARE TIGHTENED**

For the machine cleaning we suggest proceeding with low pressure air jets or small and controlled water jets, well far from the electrical parts and with the power switched off.



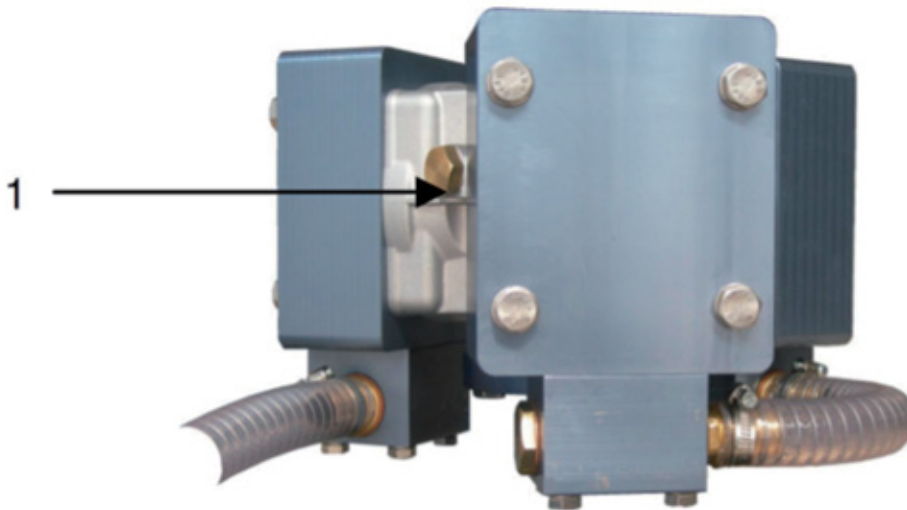


Oil change

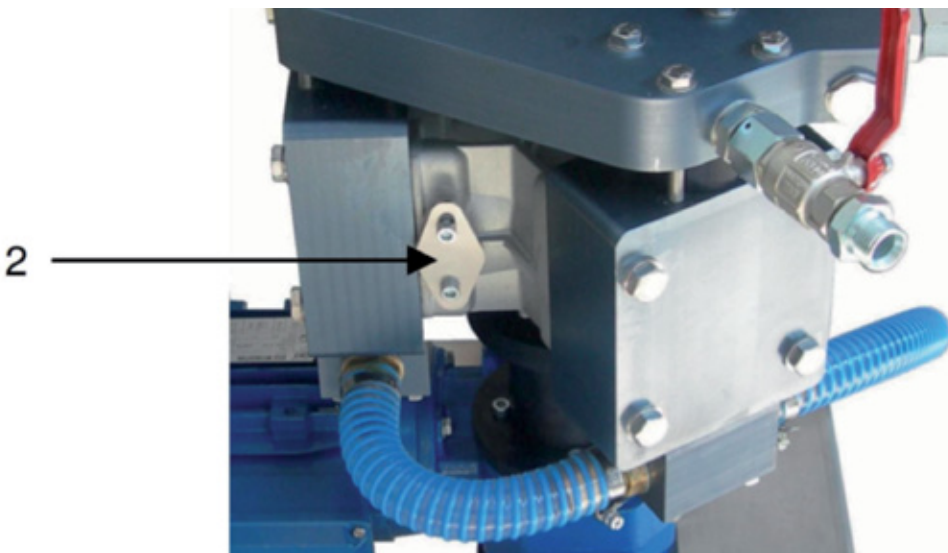
EVERY TWO YEARS PERFORM A COMPLETE OIL CHANGE: OIL SAE 10W 40

Follow these simple instructions:

1: place a bowl to collect the used oil and unscrew the DRAIN OIL PLUG pos. 1



2: unscrew the oil plug (pos. 2) and drain the exhausted oil



3: when all exhausted oil has drained, screw the DRAIN OIL PLUG pos. 1 and fill form plug pos. 2 with 800ml of new oil SAE 10W 40, then screw the fill plug pos.2

4: set the pump in BY-PASS (semi-automatic) mode at low frequency for some minutes.



11) OPTIONALS

Kit saver pump

-Oil level sensor:

The sensor is activated when there is no more oil in the tank and immediately stops the machine
The oil is intended only to lubricate the pistons rods inside the pump unit,
Perform a complete oil change every two years.

-Pump Saver Kit:

Gives a display warning and suddenly stops the pump if one of the following failures occurs:

- Lack of oil;
- Membrane breakage;
- Pump unit breakage.



REMARK: active message only with the optional Saver Pump Kit

The lubricating oil of the pistons is finished or a plunger seal has broken.

Push  to quit alarm sound, and perform the following troubleshooting:

- If the oil is finished, fill in the tank up to the maximum level tick.
- If a plunger seal has broken, open the pump and replace it with a new one.

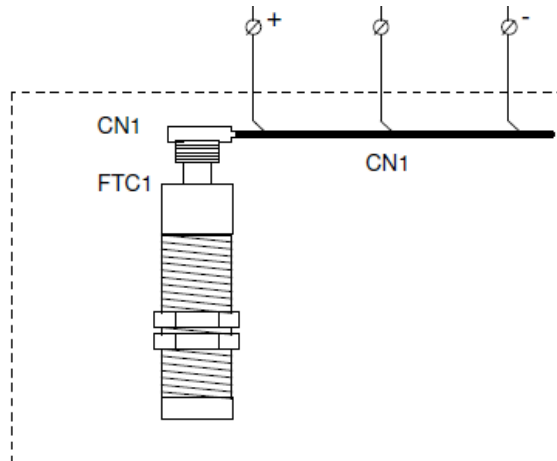
After any repairs restart working following the instructions for
MANUAL MODE page 16 or AUTOMATIC MODE page 20
If an alarm situation persists, please contact the technical assistance






Stand – by photocell

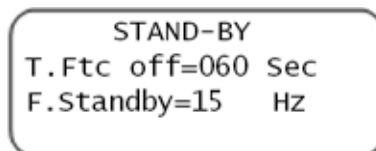
If the conveyor belt does not carry any material at the time set, force the pump to run at low speed (saving energy, saving nozzles wear and saving glaze).

When the material returns to flow, it automatically returns to the previous working settings



**PHOTOCELL FTC1 STAND-BY
OPTIONAL**

1. Start the machine acting on the MAIN switch.
2. Push  MANUAL for manual mode and, if it is not displayed, reach the following screen with   buttons



TIME OFF PHOTOCELL [030 – 600 sec]

Sets the time that should elapse between the moment the photocell fails to read the passage of any tile and the moment the machine goes in stand-by (STAND – BY Mode)

STAND-BY FREQUENCY [05 – 50 Hz]

Sets the working frequency for stand-by mode

REMARK: Stand-By photocell is optional



Technical Support Request

The technical support is available for any clarifications and to support the customer by sending skilled technicians or to supply spare parts.

In each request please specify the data identifying the machine: type, serial number, year of construction

in case of need, please contact:



original spare parts and equipment
for ceramic industry

INTER SER S.p.A.

Via Verdi, 27
13100 Vercelli ITALY

www.interser.it

tel: +39 0161 218860
fax: +39 0161 219662
interser@interser.it



Please note that the Customer is obliged to buy original spare parts to ensure proper operation of the machine, as well as warrant validity.

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