



**Instruction Manual**  
**AMA - ASPHALT MIX ANALYZER**

**Product Code**

**B003**

**Do not attempt to operate this equipment before reading  
and comprehending the manual in all its parts**



**Users**

**MACHINE MANUFACTURERS | DRAUGHTSMEN | OPERATORS | MAINTENANCE WORKERS | ANY OTHERS**

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## 1. GENERAL INFORMATION

### 1.1 WARNINGS

The manufacturer does not accept any responsibility for direct or indirect damage to people, things or animals and use of the appliance in different conditions from those foreseen.

The manufacturer reserves the right to make changes to the documentary information or to the appliance without advance notice.

Check the machine responds to the standards in force in the state in which it has been installed.

All operations necessary for maintaining machine efficiency before and throughout use are the operator's responsibility. Carefully read the entire manual before operating the machine.

It is vital to know the information and limitations contained in this manual for correct machine use by the operator. Interventions are only permitted if the operator is accordingly competent and trained.

The operator must be knowledgeable about machine operations and mechanisms.



The purchaser must ensure that operators are trained and aware of all the information and clarifications in the supplied documentation. Even with such certainty the operator or user must be informed and therefore aware of potential risks when operating the machine. Safety, reliability and optimum performance is guaranteed when using original parts.

Any tampering or modifying of the appliance (electrical, mechanical or other) which has not been previously authorised in writing by the manufacturer is considered abusive and disclaims the constructor from any responsibility for any resulting damage. All necessary operations to maintain the efficiency of the machine before and throughout use are the responsibility of the user.

### 1.2 WARNING AND DANGER INDICATIONS - SIGNS

The machine has been designed and constructed according to the current norms and consequently with mechanical and electrical safety devices designed to protect the operator or user from possible physical damage. Residual risks during use or in some intervention procedures on the device are however present. Such risks can be reduced by carefully following manual procedures, using the suggested individual protection devices and respecting the legal and safety norms in force.

This manual includes "Warning" and "Danger" indications in relevant chapters. These indications are shown with the words "Danger" or "Warning" in bold font and uppercase to make them highly visible.

	<b>WARNING</b>	It indicates that machine damage could be caused should indications be ignored.
	<b>DANGER</b>	It indicates that machine damage and/or injury to the worker could be caused should indications be ignored.

"**DANGEROUS ZONE**" indicates any zone inside or in the proximity on the appliance in which a person in exposed to the risk of injury of damage to health.

### 1.3 AIM OF THE INSTRUCTIONS MANUAL

This manual has been edited with the aim of providing all machine operators with all the necessary information on installation, use and maintenance from production to scrapping in as comprehensive and clear manner as possible.

All the procedures useful for any foreseeable emergency situations have been listed by the manufacturer and can be verified during use.

Operators, for whom this manual has been written, due to their competence must give instructions or operate the machine themselves.

The instructions manual must be carefully consulted by laboratory or site safety managers, equipment operators and any internal and external maintenance workers.

The manual is integral to the product and refers to this appliance only.

The manual must be safeguarded and always kept near the equipment so that it can be easily consulted whenever necessary.

**IMPORTANT:** The manual does not substitute the experience and technical training of the worker but must be considered a guide for carrying out its functions.

Furthermore, all the norms and rules the operator should be aware of or consult for correct use of the machine and/or test performance can be found in the manual.

This responsibility is entrusted to the installer and Laboratory or Site Manager where the machine is installed.

The Constructor is available to provide further information.

### 1.4 STRUCTURE OF THE INSTRUCTIONS MANUAL

The manual can consist of a number of documents, as shown in the appropriate list.

Verify that all documents are present; otherwise request the missing parts from the Constructor before using the machine. Instructions can be supplied with enclosures containing diagrams and designs, which are necessary for interpretation of correct machine use and maintenance.

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## 1.5 COMPOSITION OF THE INSTRUCTIONS MANUAL

### Document Description

Instructions manual

### Document Code

B003.M01.EN.02

## 1.6 MODIFICATIONS AND ENCLOSURES OF THE INSTRUCTIONS MANUAL

This manual reflects the state at the time of the launch of the machine on its market. If any modifications, improvements or adjustments have been made since machine supply the Manufacturer does not have to intervene on the marketed machine and will not consider the machine or the manual deficient or inadequate.

## 1.7 CONSTRUCTOR IDENTIFICATION

See first page.

## 1.8 MACHINE IDENTIFICATION DATA

See first page.


## 1.9 EC STAMP

See EC Declaration

## 1.10 USAGE

Intended use of the appliance: The asphalt analyzer (AMA) is a machine designed and built to combine the processes associated with the extraction and recovery of bitumen of an asphalt specimen. Through the use of solvent (perchloroethylene and trichloroethylene) the aggregates and fillers are separated from the bitumen, in order to verify the quality of the recovered granular materials and determine the mineral base of the mixture. The reference standards are: ASTM D2172 | EN 12697-1.



 <div style="background-color: #cccccc; padding: 5px; display: inline-block;"><b>WARNING DANGER</b></div>	<p><b>The machine can work with the type of solvent recognized at the time of sale only, which usage has been duly designed and tested at the factory premises. Do not use the machine with alternative types of solvent.</b></p> <p><b>The machine has provision to work in different ways depending on the type of solvent used; all the settings are made at the factory premises or by an authorized technician on site. It is not possible to convert a machine to a different solvent usage further to a prior utilization. Contact the assistance service in case of doubts or special needs.</b></p>
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This appliance is for the exclusive use which it has been conceived for.

Any other use is considered improper and therefore negligent.


Machine use is allowed only in places free from danger of explosion or fire.

During operation check for conditions of danger.

immediately stop the machine should it be working irregularly, and consult the authorised dealer's Sales Service department.

It is the Client's responsibility to verify at the time of installation and use that no conditions of use arise which are different to those indicated.

## 1.11 OPERATORS

 <div style="background-color: #cccccc; padding: 5px; display: inline-block;"><b>WARNING DANGER</b></div>	<p>The use, transportation, installation, maintenance, demolition and disposal of the appliance are only permitted to "QUALIFIED PERSONNEL". This manual is exclusively aimed at "QUALIFIED PERSONNEL" and contains the necessary information for machine use.</p>
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"QUALIFIED PERSONNEL" means people who, due to their training, experience and education, as well as knowledge of the relevant standards, limitations and measures, have been authorised by the "PLANT SAFETY MANAGER" to carry out any necessary activity and are able to recognise and avoid any possible danger.

The manufacturer recommends that the instructions, procedures and recommendations in this manual and the work safety legislation in force be scrupulously adhered to, even with the use of appropriate protection devices (whether individual or part of the machine).


Knowledge and respect of the instructions, safety warnings and danger in this manual are all necessary for installation, operation, management and machine maintenance with a minimal risk.

The "PLANT SAFETY MANAGER" has the following responsibilities and duties:


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- To know the machine functions, its commands, safety and protection devices, possible dangers of use and all the information in this manual in detail. This knowledge can only be gleaned from detailed reading of this manual.
- To know the safety legislation in force in detail in order to operate the machine
- To recognise the “QUALIFIED PERSONNEL” for transportation, handling, installation, use, maintenance, disposal, etc.
- Correctly train and educate the “QUALIFIED PERSONNEL” before allowing them access to the machine. The personnel must also be exhaustively trained with regards to the machine’s protection devices.
- Ensure the machine’s safety devices are not tampered with or removed and are checked on a daily basis. Provide the operator appropriate individual protection devices according to the laws in force.
- The constructor is available for clarification, assistance and training and declines all responsibility for damage to things or people resulting from improper, incorrect and negligent use by untrained personnel.


### 1.12 STORAGE

	<b>WARNING</b>	The appliance must be stored and conserved in the original packaging and in a closed environment, protected from atmospheric agents with a minimum temperature of -15C°, and a maximum of +60C° and a maximum humidity of 70%.
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### 1.13 TRANSPORTATION AND MOVEMENT

	<b>WARNING</b>	In order to avoid irreparable machine damage, move with care, do not overturn, protect from rain, do not stack, protect the packaging and its contents from bumps and sources of heat.
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During transportation and movement, it is important to avoid bumps, overloading with other packages, exposure to freezing or heating atmospheric agents, or any other potentially harmful condition to the device, things or people. Machine transportation and movement must be entrusted to Qualified Personnel who can ensure correct movement.


	<b>WARNING DANGER</b>	<b>Do not transport or move the product should it be impossible to respect the conditions on the packaging or there be any doubts. Request information from the constructor.</b>
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To facilitate transport and handling operations, the machine is normally packed on a wooden base, if necessary, equipped with walls to form a box. Use a forklift to lift and move the case.

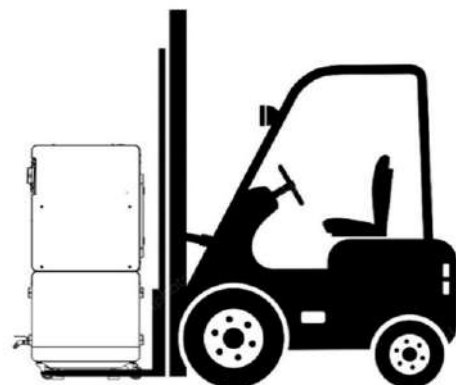


### 1.14 PACKAGING REMOVAL


After removing the packaging check the machine is complete and that there are no visibly damaged parts. DO NOT USE THE MACHINE and refer to the constructor when in doubt.

	<b>DANGER</b>	The components used for packaging (plastic bags, polystyrene, nails, screws, wood, etc) must be kept out of reach of children, as they are sources of danger. These components should be placed in the appropriate containers. Before disposing of the packaging check all machine components such as accessories, utensils, instructions, documents etc have been removed.
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	<b>WARNING</b>	In order to avoid bumps and overturn adopt the normal and logical precautions.
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The machine must be lifted only with a forklift whose forks must be positioned between the pivoting wheels of the machine. Do not lift it anywhere else to avoid damaging the equipment (see opposite Figure).

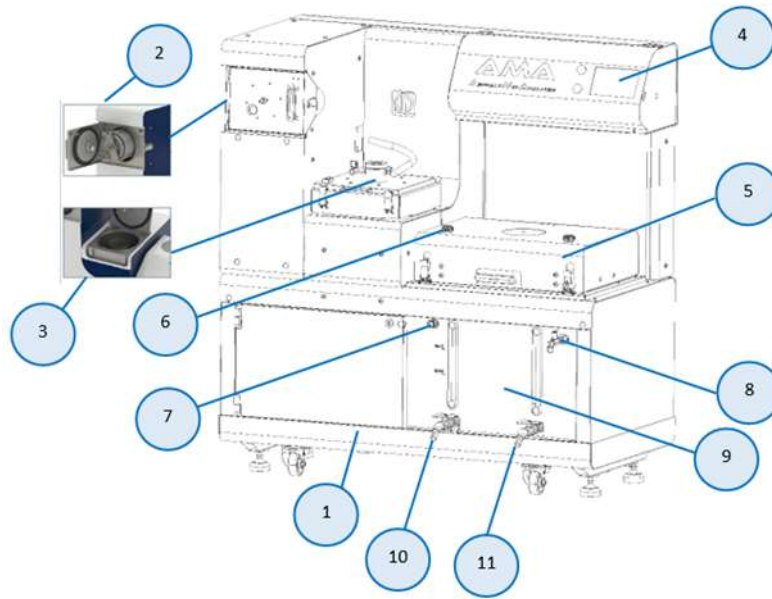
	<b>WARNING</b>
Adopt the normal and logical precautions to avoid collisions and overturning.	

<b>Net weight (Kg)</b>
<b>~250</b>

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## 2. TECHNICAL CHARACTERISTICS

### 2.1 GENERAL MACHINE DESCRIPTION



### NECESSARY ACCESSORIES (NOT INCLUDED IN THE MACHINE AND TO BE ORDERED SEPARATELY)



1	<b>BASE AND MACHINE STRUCTURE</b> Made of painted steel supported by wheels to facilitate handling and leveling feet.
2	<b>WASHING CHAMBER</b> It is used to house the washing basket and subject it to spraying cycles with solvent, rotation and ultrasonic waves. The closure is ensured by a safety switch.
3	<b>CENTRIFUGE</b> It houses the centrifuging glass which, subjected to high rotational speed, is used to collect the filler. The closure is ensured by a safety switch.
4	<b>DISPLAY</b> It is used to manage and monitor the operation of the machine.
5	<b>DISTILLER COVER</b> Contains the cooling coil for the condensation of the solvent to be recovered.
6	<b>UPPER LOADING CAP</b>
7	<b>FRONT LOAD ENGAGEMENT</b>
8	<b>FAST EXTRACTION TAP</b>
9	<b>DISTILLER</b> Made with a double chamber: one for the distillation of the bitumen solvent mixture containing the heating coils, one for the solvent tank.
10	<b>VALVE TO DRAIN RECOVERED SOLVENT</b>
11	<b>VALVE FOR DRAINING BITUMEN AND CONTAMINATED</b>
20	<b>WASH BASKET</b> It serves to house the asphalt sample to be analyzed
21	<b>CAP FOR WASHING BASKET</b>
22	<b>CENTRIFUGAL CUP</b> It houses the filter paper and collects the filler
23	<b>FILTER PAPER FOR CENTRIFUGAL CUP</b>

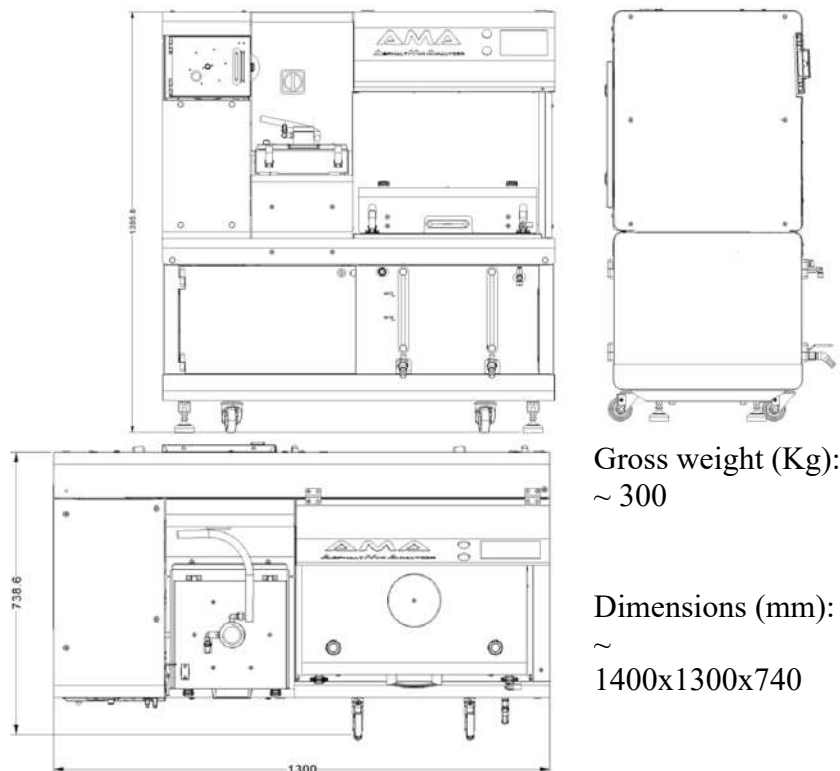
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### TECHNICAL FEATURES

<b>MACHINE CODE</b>	<i>B003</i> (380V AC/50Hz)	<i>B003K</i> (230V AC/60Hz 3PH)
<b>POWER</b>	8000 W	
<b>MAXIMUM SAMPLE WEIGHT</b>	3 kg	
<b>Centrifugal rotation</b>	counterclockwise 6000 rpm	
<b>Filler capacity</b>	200 g approximately	
<b>Extraction time</b>	About 50 minutes	
<b>Noise</b>	75dB	

<b>MACHINE CODE</b>	<i>B003-01</i>	<i>B003-02</i>	<i>B003-21</i>
<b>SUITABLE SOLVENT</b>	Perchloroethylene	Trichloroethylene	Methylen chloride

## 2.2 DIMENSIONS AND WEIGHTS



## 2.3 POWER SUPPLY

The identification plate is located on the rear side of the instrument, near the power cable outlet.

## 2.4 NOISE

The air noise emission levels shown do not necessarily imply the levels of exposure to the worker.

The levels of exposure to the operator are obviously linked to the emission levels of the appliance; however other factors influence the levels of exposure to the operator: length of exposure, environmental characteristics, the presence of other machines etc.

The appliance emission levels allow anyway an estimate to be carried out on the dangers due to noise.

	<b>DANGER</b>	Continuous use of the appliance and machines predictably present in the installation environment could cause a heightened daily personal exposure to noise.
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If the daily personal exposure is equal to or greater than 85 dB (A), it is advisable to use Personal Protective Equipment (Protective cap, Protective caps, etc.). If the daily personal exposure is equal to or greater than 90 dB (A), it is mandatory to use Personal Protective Equipment (Protective cap, Protective caps, etc.). For more information, consult the regulations in force in the country of installation.

## 3. GENERAL SAFETY STANDARDS

### 3.1 GENERAL STANDARDS

To ensure the safety of machine operators:

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- Any tampering with the appliance not pre-emptively authorised by the manufacturer exempts the manufacturer from any responsibility for damage caused by or to it.
- The removal or tampering with safety devices entails a violation of the safety standards.
- Machine use is only allowed in areas where there is no risk of explosions or fires.
- Only the original fittings can be used. The use of unoriginal fittings exonerates the manufacturer from all responsibility.
- Check the appliance is in ideal working conditions and that its parts are not worn or faulty before Carry out all necessary maintenance
- Do not wear loose clothing, ties, chains or anything else which could become caught in the frame or other moving parts of the appliance.
- Be aware of the danger of electrical shocks from direct or indirect contact due to unforeseen electrical faults.
- Do not subject the appliance to violent impact.
- Do not expose the appliance to fire, welding sparks or extreme temperatures.
- Do not bring the appliance into contact with corrosive substances.
- Do not wash the appliance with jets of water.
- Check the workspace around the machine is clear from potentially dangerous objects.
- The machine operator must wear appropriate work clothing such as protective glasses, gloves and mask in order to avoid damage from, for example, harmful dust projection. Wear a lower back support when lifting heavy parts. There should be no hanging objects such as bracelets or otherwise, long hair should be protected with relevant precautions, shoes must be appropriate for the type of operation to be carried out.


### DURING USE

When operating check there are no conditions of danger. Immediately stop the machine when it is functioning irregularly. Contact the authorized Sales Service department. For the operator's safety do not touch any part of the appliance when testing and use the appropriate individual protection devices in order to keep the operator safe.

RISK OR DANGER		PROTECTION DEVICES	
FINGER SQUEEZE CUTS OR ABRASIONS		REINFORCED GLOVES	
MATERIAL FALL		ACCIDENT-PREVENTION SHOES	

### 3.2 MACHINE SAFETY DEVICES AND PROTECTION

DEFINITION: Protections are all the safety measures that consist of the use of specific technical means (repairs, safety devices) to protect people from dangers which cannot be limited reasonably in design.

	<b>DANGER</b>
<p>Tampering with the protections or any appliance modification could cause risks to users or other exposed people. The manufacturer does not assume any responsibility for direct or in direct damage to people, things or animals following tampering with the protections.</p>	

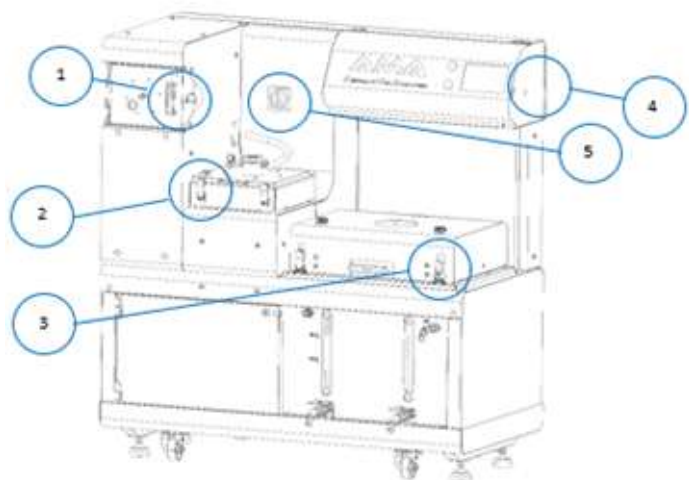
### 3.3 PASSIVE SAFETY DEVICES

Passive safety devices are the devices or solutions which eliminate or reduce the risks to the operator without any active intervention by the operator.

The machine is equipped with two safety switches that prevent access to the relative operating areas during machine operation. These switches are unlocked by the electronic control unit.

**When the machine is switched-off, all the safety devices are locked. The safety devices will unlock themselves as soon as the machine will be in Ready mode ("R").**

<b>1</b>	<b>WASHING CHAMBER SWITCH</b>
<b>2</b>	<b>CENTRIFUGAL SWITCH</b>



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### 3.4 ACTIVE SAFETY DEVICES

Active safety devices are the devices or solutions which eliminate or reduce the risks to the operator and require active and conscious intervention by the operator for the preventive action to be carried out.

On the machine there is a general switch which, when actuated, removes the power supply. The emergency button interrupts the test. A padded hinge prevents the distiller lid from being opened to unauthorized personnel in possession of the relative key.

The panels that allow access to the internal parts of the machine for maintenance operations are equipped with key locks to allow access only to authorized personnel.

3	<b>PADLOCKABLE HINGE</b>
4	<b>EMERGENCY BUTTON</b>
5	<b>MAIN SWITCH</b>

## 4. INSTALLATION INSTRUCTIONS

### 4.1 LOCATION

The equipment must be placed in an ideal position and environment for the use it has been conceived for (laboratory use and protected from atmospheric agents) and that the machine is placed by a qualified operator.

#### ALLOWED TEMPERATURE

From +5°C to +40°C

#### ALLOWED RELATIVE HUMIDITY

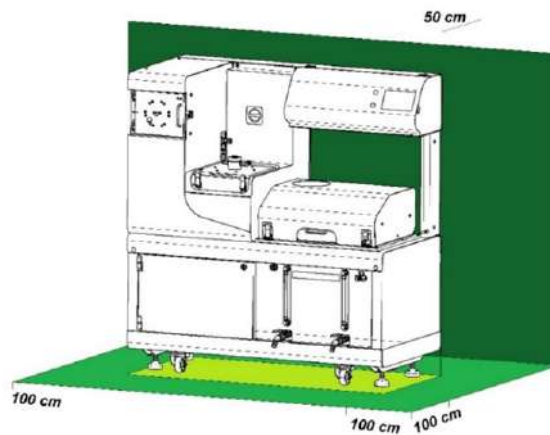
from 30% to 70%

#### GENERAL ADVICE:

The machine must be installed in an area which allows ease of access to all parts so that maintenance may be carried out. Unauthorized people and objects which could be potential sources of danger must not be permitted in the area surrounding the machine.

Do not position the equipment near instruments or appliances which could produce vibrations.

A space of 100 cm in front and on the sides of the machine and 50 cm on the back is considered sufficient to perform the normal functions of use.



### 4.2 TRANSPORTATION AND MOVEMENT

These instructions are applicable to the machine assemblers.

Ensure the equipment is correctly supported at the lifting point and that the machine does not slip.

Do not remain in direct line with the application of force and do not allow personnel where there are loads that cannot be adequately supported by mechanical means.

### 4.3 ASSEMBLING PROCEDURE

After removing the packaging, make sure the machine is intact, checking that there are no visibly damaged parts. In case of doubt DO NOT USE THE MACHINE and contact the retailer.

### HYDRAULIC CONNECTION



#### WARNING

The machine needs to be connected to a water supply source at a temperature between 10 ° C and 20 ° C.

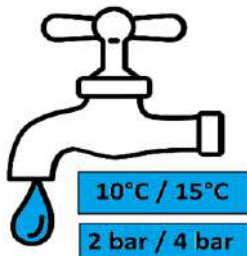
The water flows in a circuit inside the machine performing the function of refrigerant so as to guarantee the correct performance of the work cycle allowing the condensation of the solvent vapors.

It is possible to connect the inlet pipe (C) to a normal faucet and send the drain pipe (B) into a collection tank.

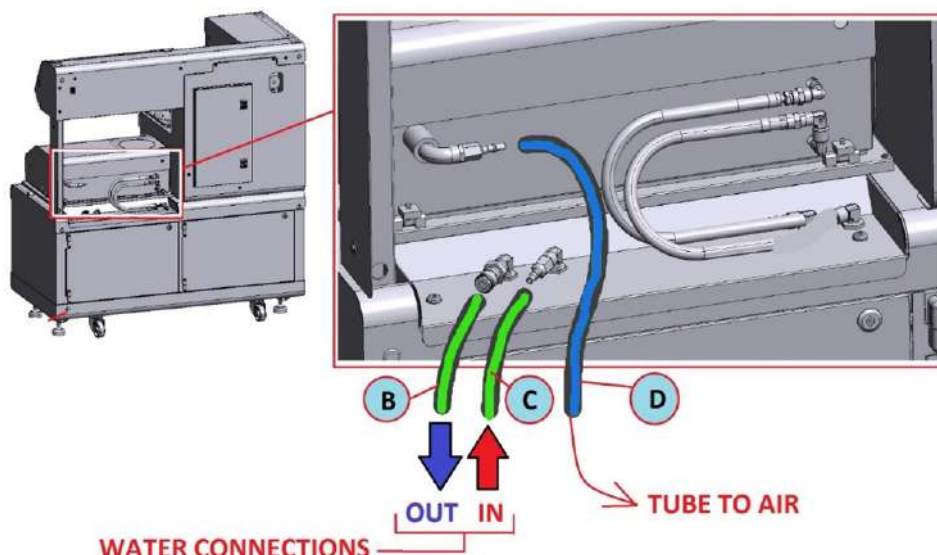
The best and preferable alternative is to connect a chiller unit capable of recirculating chilled water by pumping it and recovering it in a closed loop at the input and output points.

The machine is equipped with a flow sensor that prevents it from functioning in case of lack of adequate water flow (about 3 liters per minute).

At the entrance, the machine is equipped with a solenoid valve that manages the flow when the machine is turned on and commanded to start the test.



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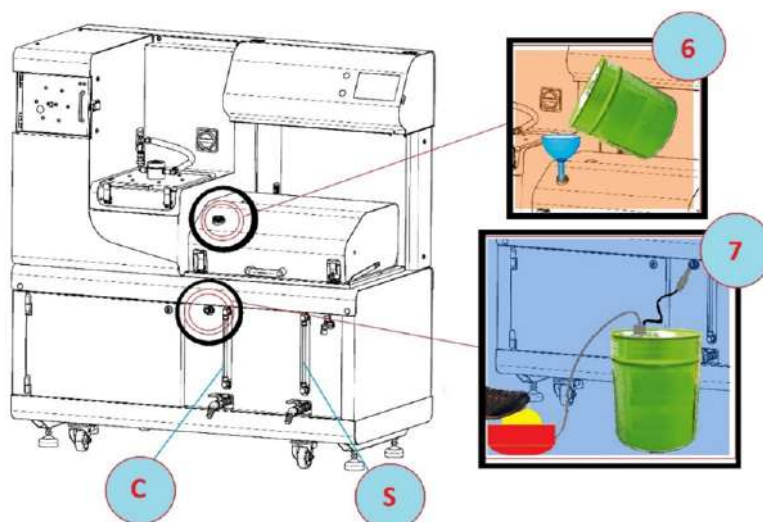
### AIR TUBE CONNECTION

The flexible pipe (D) at the rear of the distiller is used to evacuate vapors. It must be connected to a tube escaping the laboratory (without filters), forming an upwards siphon which allows condensation of vapors to return to the tank.

It is advisable to position the machine within a suction chamber.

### SOLVENT LOAD

	<b>DANGER</b>	Avoid direct contact with the solvent. Use the appropriate personal protective equipment such as glasses, gloves or masks referring to the solvent safety data sheet.
	<b>DANGER</b>	During the normal operation of the machine there are no obvious emissions of fumes or solvents. However, it is advisable to locate the machine under a special extractor hood to clean the vapors emitted during the set-up phases.
	<b>DANGER</b>	Take precautions and appropriate PPE such as goggles, glasses and masks to handle the washing basket and the centrifuging glass during machine setup.
 	<b>ATTENTION DANGER</b>	<p><b>The machine can work with the type of solvent recognized at the time of sale only, which usage has been duly designed and tested at the factory premises. Do not use the machine with alternative types of solvent.</b></p> <p><b>The machine has provision to work in different ways depending on the type of solvent used (See par. 2.1 – Technical Features); all the settings are made at the factory premises or by an authorized technician on site. It is not possible to convert a machine to a different solvent usage further to a prior utilization. Contact the assistance service in case of doubts or special needs.</b></p>



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The distiller on the right side of the machine consists of two tanks. The one on the left is the one devoted to house the clean solvent and the right one is used to collect the distilled bituminous mixture.

<b>C</b>	SOLVENT CLEAN INDICATOR
<b>S</b>	SOLVENT DIRTY INDICATOR
<b>6</b>	UPPER LOADING CAP
<b>7</b>	FRONT LOAD ENGAGEMENT

The solvent can be loaded using the upper loading cap (6) by pouring it by gravity or by using the frontal coupling (7) suitable for a pressurized charge. An additional accessory consisting of a foot pump and a quick attack like the one shown in the image is available on request, see Matest catalogue for further information. The tank capacity is equal to 25 liters approximately, the level of solvent in the tank must be always lower than the maximum limit threshold indicated on the front level indicator.

#### 4.4 ELECTRICAL CONNECTION

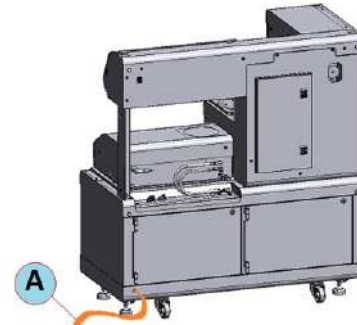


Wiring of the electrical system must be carried out by qualified personnel.

The machine is equipped with an electric cable (A) for the electrical connection

Before wiring consult the electric plan linked to the instructions manual and the registration plate on the machine for information regarding supply, frequency and nominal current. Connect the earthing system via the PE terminal (yellow-green) before any other connection.

Apply a knife switch at the top of the connecting cable of the machine to the power system. The knife switch must be combined with a safety device against the overload with a differential switch (safety switch). The technical features of the safety device must be in accordance with the standards in force in the country where the machine has been installed.



	<p>The machine is equipped with a phase sequencer device that authenticates the proper sequencing of electrical phases. At power up, if the phases are interchanged, an error message will appear warning that a phase reversing is compulsory before starting the appliance again.</p> <p><b>DO NOT CHANGE THEM INSIDE THE MACHINE</b></p>
--	---

#### ELECTRIC TOLERANCES:

- Real voltage  $\pm 10\%$  of the nominal one
- Frequency:  $\pm 1\%$  of the nominal one in a continuous way
- $\pm 2\%$  of the nominal one for a short period
- The harmonic distortion of the sum from the second to the fifth harmonics not more than 10% of the total voltage as a real value between the conductors. A further distortion of 2% is accepted for the sum from the sixth to the thirtieth harmonics of the real total value between the conductors.
- With reference to the voltage imbalance of the three-phase voltage, the inverted sequence component and the zero sequence component must not be more than 2% of the direct sequence component of the voltage.
- The voltage pulses must not last more than 1,5 ms with an up/down time between 500 ms and 500 ms and a peak value not higher than 200% of the real value of the nominal tension.
- The electric supply must not be interrupted or zeroed for more than 3 ms at any time. Between two interruptions it must not take more than 1 s.
- The interruptions must not overcome 20% of the tension peak for more than one cycle. Between two interruptions it must not take more than 1 s.

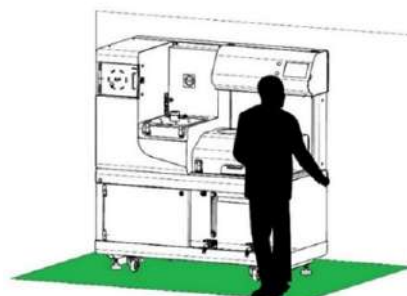
The manufacturer assumes no liability for any damages to people, things and animals caused by the non-compliance of the above instructions.

## 5. MAN-COMMAND INTERFACE

### 5.1 WORKPLACE

The operator performs the normal functions of preparing the machine and programming the test, moving in front of the machine.

During the execution of the test, the operator can monitor the operating status of the machine through the display on the panel.



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## MAIN SCREEN

The following screen is shown after the switching on, and it allows the selection of the main functions.

→ Display area menu

→ Description of the selected menu item

→ Status bar



Asphalt Mix Analyzer

**ICONS MENU**

-  TEST
-  Alarms
-  System Configuration
-  Control panel
-  Test archive



COMMANDS SCROLL

## STATUS OF OPERATION

During the test is possible to verify more deeply the operational phase of the machine:

 Initialization

 Ready

 Test execution


 Alarm





## CONTROL PANEL


### SELECTABLE FUNCTIONS


### NAVIGATION COMMANDS


 Time and date


 International settings

 Password change  
**(PROTECTED BY PASSWORD – default 4444)**

 Touch screen calibration.

 Software maintenance  
**(PROTECTED BY PASSWORD – default 5555)**

 TO SCROLL THE COMMANDS

 TO RETURN TO THE TOP MENU

## DATE/TIME

Date:  /  /

Time:  :  :


✖  
✔

commands



Abort

commands



Confirm

Parameters	Values
<b>Day</b>	<ul style="list-style-type: none"> <li>➤ 1-31 for January, March, May, July, August, October, December.</li> <li>➤ 1-30 for April, June, September, November.</li> <li>➤ 1-29 for February in leap years.</li> <li>➤ 1-28 for February in non-leap years.</li> </ul>
<b>Month</b>	➤ January, February, March, April, May, June, July, August, September, October, November, December.
<b>Year</b>	➤ 1970-2069
<b>Hour</b>	➤ 0-23
<b>Minute</b>	➤ 0-59
<b>Second</b>	➤ 0-59

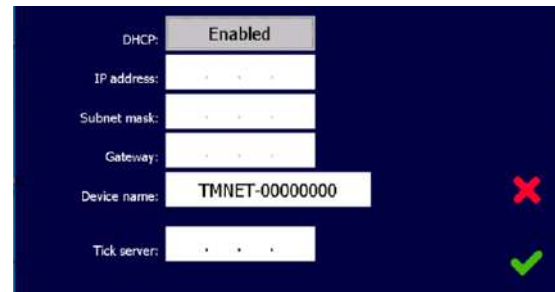
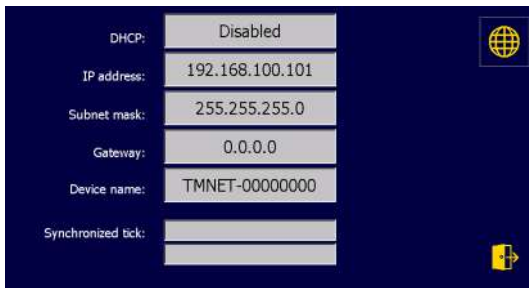


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## NETWORK CONNECTION

The screen network connections show the parameters for TCP/IP configuration, set up by the user (if DHCP is disabled) or assigned by DHCP (if enabled).

Parameters	Values
<b>DHCP</b>	Select "Enable" to activate the configuration of a dynamic IP address (assigned by DHCP). Select "Disable" to activate the configuration of a static IP address (set up by the user).
<b>IP address</b>	This parameter is accessible only in case of disabled DHCP. In this case, set a valid IP address.
<b>Subnet mask</b>	This parameter is accessible only in case of disabled DHCP. In this case, set a valid subnet mask.
<b>Gateway address</b>	This parameter is accessible only in case of disabled DHCP. In this case, set the IP address of the gateway. This parameter is unnecessary if the machine is connected to a local network.
<b>Server address for synchronized tick:</b>	Used for connection to the server that manage the net synchronization of multiple devices. Set a valid IP, if requested.



Net configuration (Parameters' alteration can be activated by pressing the button)



Closing of the view



Abort



Confirm



**WARNING**

For a proper configuration of the network, turn to the

network's administrator or consult the provided helpsheet.

## POWER SAVE SETTINGS



Power saving allows to automatically turn off the backlight of the display if no operator activity. Useful with battery tools because they increase the duration of the charge.

Parametes	Value
<b>Power saving</b>	"Enabled", "Disabled".
<b>Timeout</b>	Enter the time (seconds) after which, if no operator activity, the system turns off the backlight of the display to reduce power consumption. To reactivate the backlight "touch" screen, move the mouse or press any key.

**Commands**



It cancels the changes



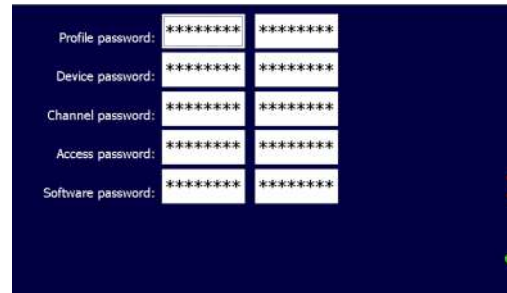
It confirms the changes

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## PASSWORD

The password screen allows the personalization of access keys to “critic” function of the machine.

Parameters	Values
Profile password	Digit a numeric value
Device password	Digit a numeric value
Channel password	Digit a numeric value
Access password	Digit a numeric value
Software password	Digit a numeric value



### WARNING

**Every password it has to be digitated twice in order to avoid errors that may disable the current function.**



Abort



Confirm

## SOFTWARE MAINTENANCE

- Device name (TMNET-xxxxxxx)
- CPU name
- Operating system
- Operation
- Memory support



### Commands



Exit to Windows



Execution of selected operation



Close screen



### WARNING

**During the updating process (it may require few minutes) ensure that power supply of the components is kept active. Backup and restore of license and configuration will be executed automatically during the process.**

#### How to update the software

1. Select “Software update”.
2. Select memory device.
3. Ensure that the memory device is in the proper slot and that the slot contains all files for the update in the roots.
4. Activate the execution button for update operation.
5. Confirm the updating process and wait until it is finished. During the updating operation the device will be reactivated twice.

#### How to the license

1. Select “License update”.
2. Select the memory device.
3. Ensure that the memory device is located in the proper slot and that the slot contains “License.dat” file in the fold
4. Ensure that the memory device is located in the proper slot and that the slot contains “License.dat” file in the fold
5. Confirm the updating process and wait until it is finished. Then, wait for the device to be reactivated.

#### How to execute the backup of the configuration system

1. Select “Backup”
2. Select the memory device
3. Ensure that the memory device is in the proper slot
4. Activate the execution button for update operation
5. Confirm the updating process and wait until it has finished.
6. Ensure that the folder “\<dispositive name>” on the memory device has saved the “License.dat” file and that subfolders “Certificate”, “Configuration”,

#### How to restore the configuration system

1. Select “Restore”.
2. Select memory device.
3. Ensure that the folder “\<dispositive name>” on the memory device has saved the “License.dat” file and that subfolders “Certificate”, “Configuration”, “Specimen” and “Standard”, containing configuration files, have been created.
4. Activate the execution button for update operation

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“Specimen” and “Standard”, containing configuration files, have been created.

5. Confirm restore and wait the end of the operation and the subsequent reboot of the electronics.

**How to reboot the device with a temporary license (this function is used by technical assistance service for diagnostic system).**

1. Select “Temporary license”.
2. Select the device.
3. Activate the execution button for update operation



4. Ensure that the memory device is in the proper slot and that the slot contains “License.tmp” file in the folder.
5. Confirm the use of temporary license and wait for reboot.

**Hot to exit to Windows**

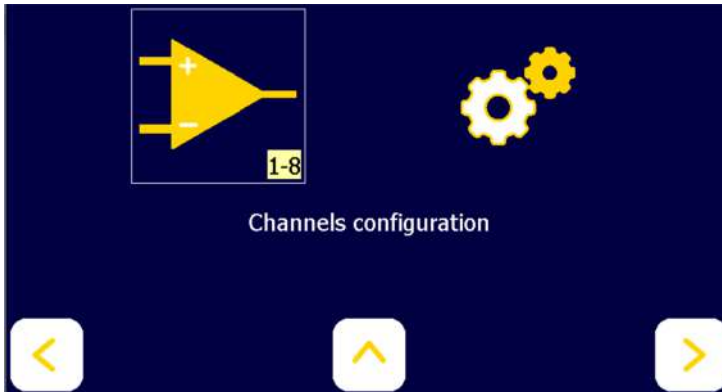


1. Activate the button to exit to Windows ( ).

2. Confirm the exit to Windows and wait the reboot.



## SYSTEM CONFIGURATION



Analogue channel configuration  
**(PROTECTED BY PASSWORD – default 3333)**



Machine configuration **(PROTECTED BY PASSWORD – default 2222)**

Allows the selection of functions for “particular” configuration of the machine. The settings menu is the following:

**NAVIGATION  
COMMANDS**



TO SCROLL THE COMMANDS

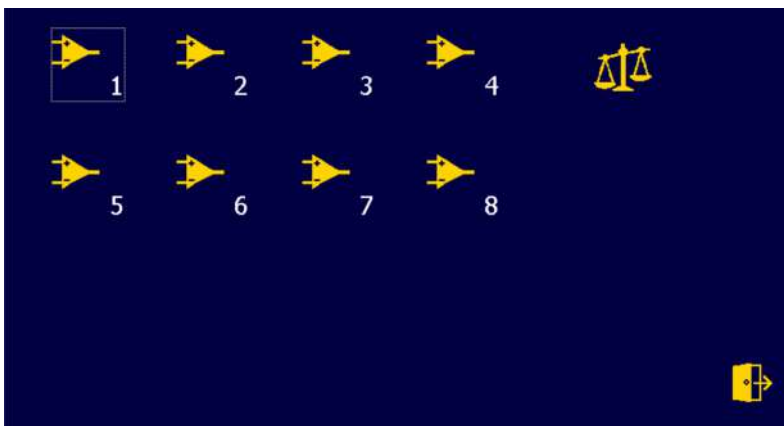


TO RETURN  
TO THE TOP MENU

## CONFIGURATION AND CALIBRATION OF CHANNELS




Use the key to access the channels configuration menu.

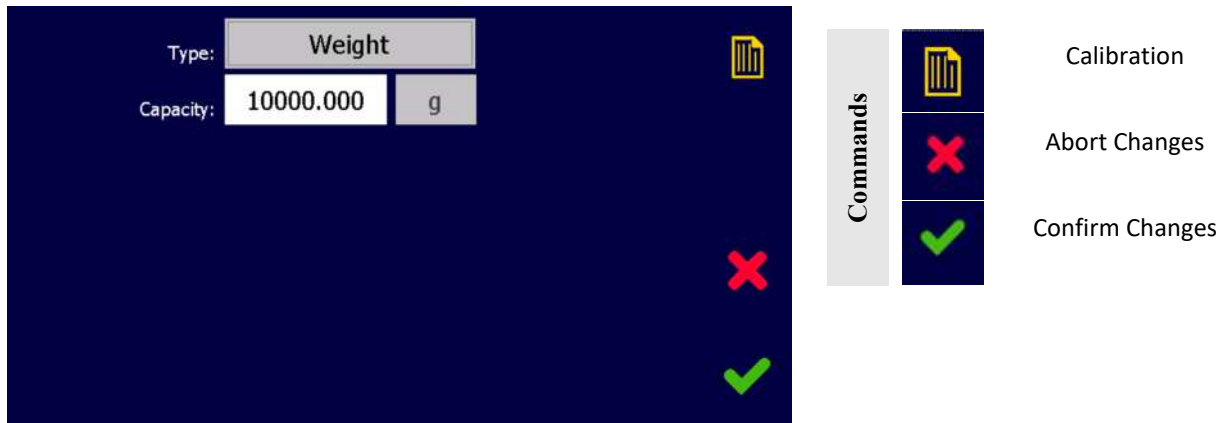


Configuration and calibration of an analogue channel can be chosen from the screen

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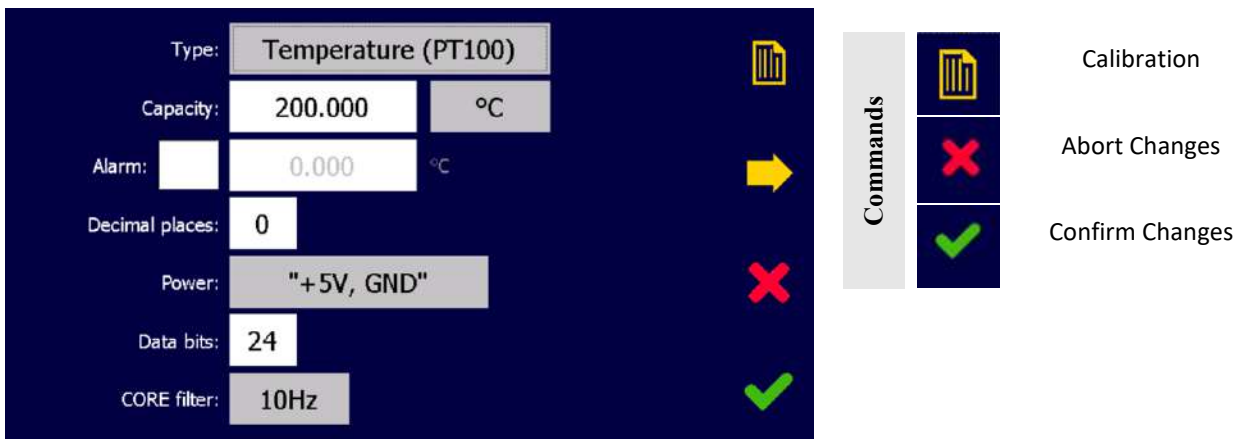


Selecting , you can configure an external scale connected via serial cable.



Parameter	Value
Type	Leave weight to allow corrections of the weight read by the scale
Capacity	Capacity of the scale in grams


Selecting any analogue channel, you access the configuration screen, through which functions and data readout modalities can be determined.



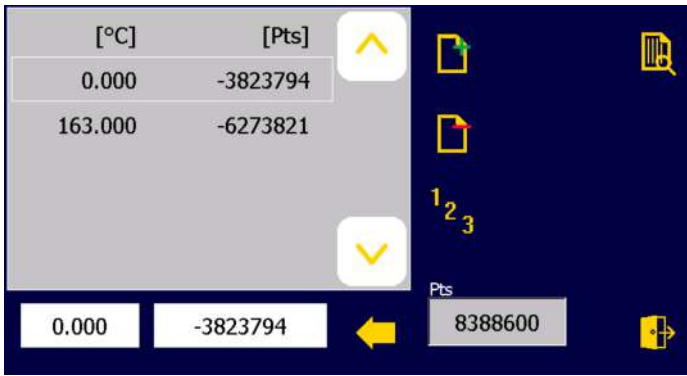
Parameter	Value
Type	Shows the information read by the analog channel (Load, deformation, etc).
Capacity	Shows transducer full-scale connected to the analogical channel. The measurement system by which it is configured is independent and different from the measurement system indicated in the section "International settings". The operator can digit the transducer's capacity directly.
Alarm	If enabled, shows threshold beyond which an alarm is automatically generated on the analog channel.
Decimal places	Decimal figures used to indicate the measure of transducer's value.
Power	Shows the transducer's potential difference and so the amplification advantage to apply before the reading.
Data bits	Shows the number of bits by which data are elaborated. By increasing the bits, increases resolution of the analog channel and instability of the measurement.

## CALIBRATION



Use the key  to enter the calibration\_screen

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↑ Channel value for the selected step      ↑ Channel points for the selected step      ↑ Copy of points value calibration step

**commands**

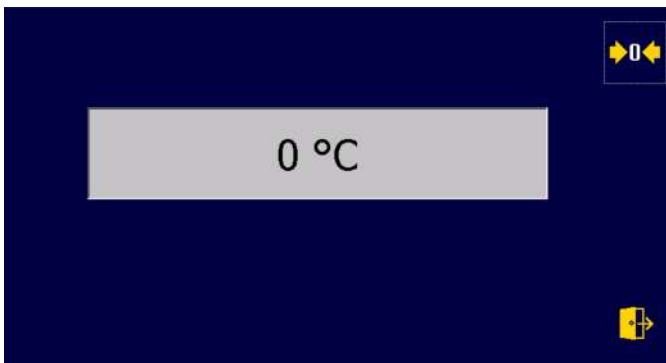
- to start the calibration check screen
- to add / remove a calibration step
- to add equidistant values of steps over the full scale
- close the screen

**To calibrate the analogue channels, proceed as follows:**

1. Add to the calibration chart the number of the desired steps by using the key .
2. Set manually the engineering values for the expected steps in the chart or initialize them with the default values (calculated in function of the number of the expected steps and of the full scale so as to have equidistant values) by using key . define manually the points corresponding to the engineering values, manually acquire them using .

**CALIBRATION CHECK**

It is also possible to check the correct calibration of the channel, by using the button .



**command**

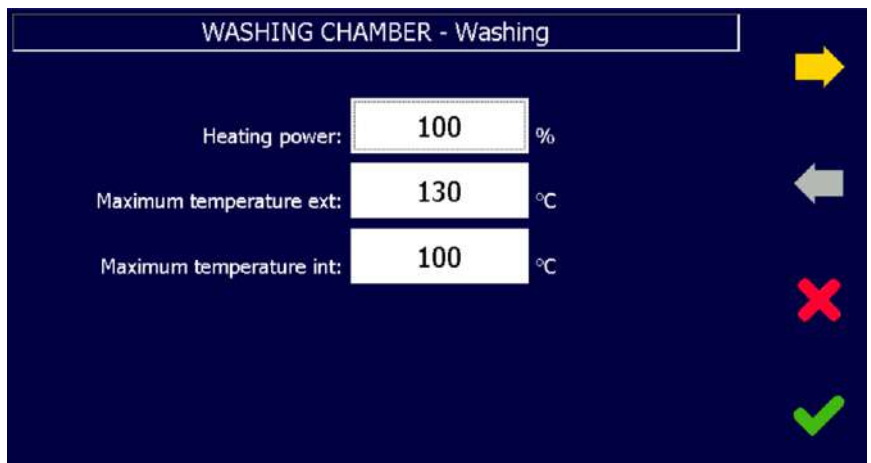
- to reset the analogue channel value
- Screen closure

**CONFIGURATION OF THE MACHINE**

Use the key to access the advanced configurations. The first screen refers to the WASHING CHAMBER configuration parameters during the Washing phase.

**Commands**

- Next page
- Cancel changes




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Confirm changes

Parameter	Value	Unit of measure (metric)	Unit of measure (U.S.)
Heating power	Percentage of heating power [default value 100 %]	%	%
Maximum temperature ext	Maximum temperature reached outside the washing chamber [default value 130 °C]	°C	°F
Maximum temperature int	Maximum temperature reached within the distiller unit [default value 100 °C]	°C	°F



Use the key  to access the configuration parameters of the WASHING CHAMBER during the drying phase

### Commands



Next page



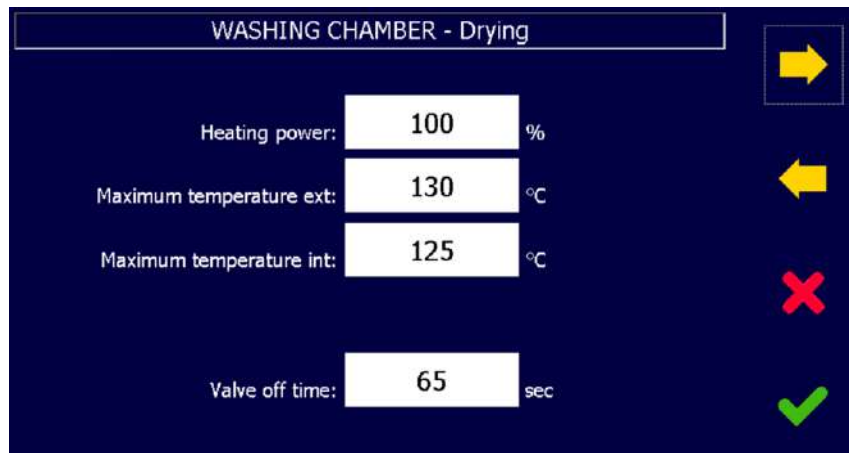
Previous page



Cancel changes



Confirm changes



Parameter	Value	Unit of measure (metric)	Unit of measure (U.S.)
Valve off time	[default value 65 sec]	sec	sec



Use the key  to access the configuration parameters of the DISTILLER

### Commands



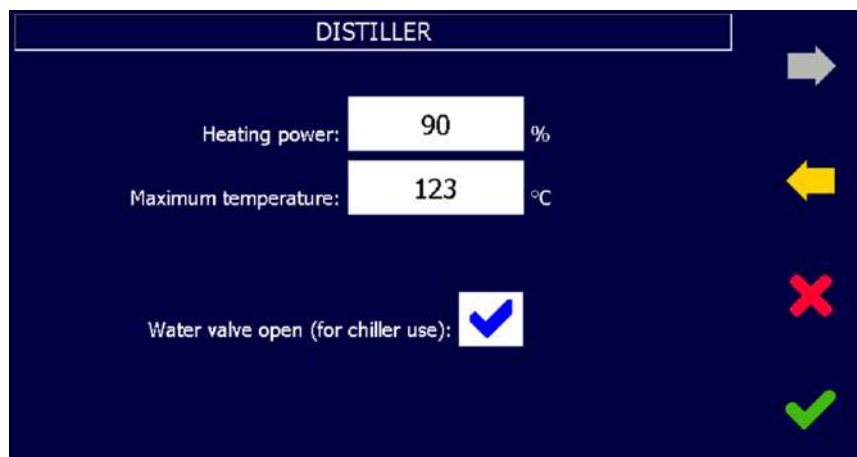
Previous page



Cancel changes



Confirm changes






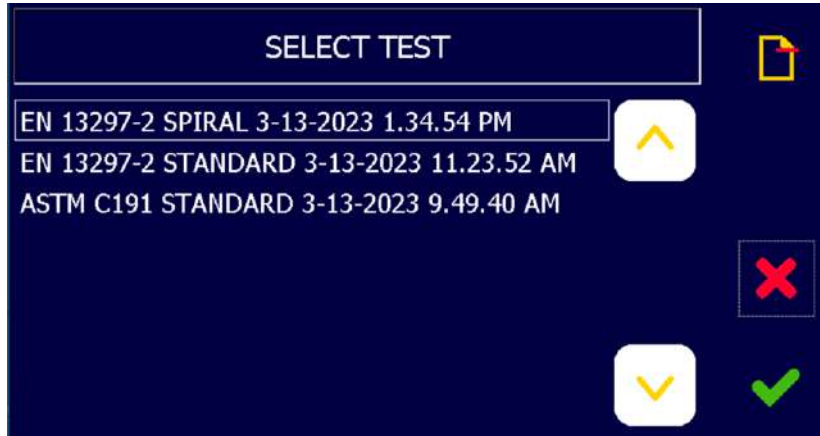
Parameter	Value
Water valve open (for chiller use)	While using the chiller the valve must remain open so to have a closed water circuit. This valve must be closed if the machine is connected to the water tap so to save water when the test is finished.

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## ARCHIVE





Use the key  to access the test archive

- Commands**
-  Delete test
  -  Cancel changes
  -  Confirm changes



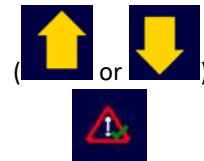
## ALARMS



- Commands**
-  Alarm awareness/reset  Visualize previous alarm
  -  Close the screen  Visualize next alarm

How to confirm alarm awareness and execute alarm reset

1. Scroll the list of active alarms until the one of your interests is found.
2. Confirm the alarm awareness and reset it by pressing:



**WARNING**

A reset alarm could appear again if the causes by which it has been plunged are not fixed.

## 6. MACHINE REGULATION AND TUNING

The first time these operations must be performed by qualified personnel in the presence of the operator in charge.

### 6.1 REGULATIONS

The machine is supplied assembled and calibrated.

### 6.2 SAFETY DEVICES CHECK

Before proceeding to a regular and continuous use of the equipment, check the emergency stop works correctly-

## 7. IN FUNCTION - USE

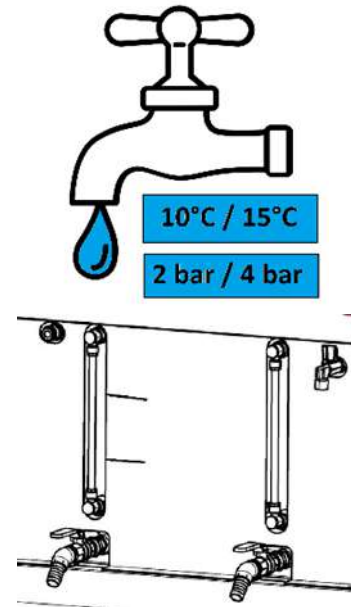
### 7.1 MACHINE CALIBRATION – METERS - INDICATORS

The machine is checked in the factory, using sample equipment periodically checked by officially recognised institutes. These checks cannot guarantee that the machine, meters and indicators will provide accurate values and results conforming to the standards in force in the countries the machine has been installed and used in. Normally such norms envisage calibration check after every movement. In order to obtain correct values and results it is therefore VITAL that the operator, once the machine has been installed and set up and before official tests, has an officially recognised body check the machine characteristics, its calibration and results/values reliability. The manufacturer is exempt from all responsibility in the case of direct and indirect damage from use of the machine without official approval by the relevant bodies.

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## 7.2 EQUIPPING – SAMPLE POSITIONING

Check the hydraulic connection to the coolant water source.

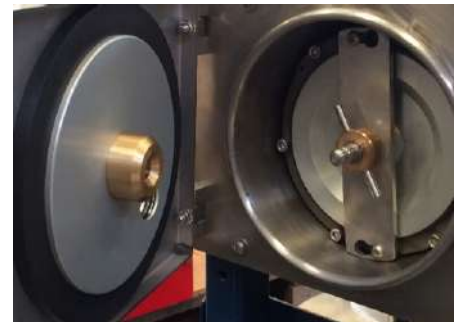


Check the solvent level in the tanks. If the level of the clean solvent is low and the one of the dirty solvent is high, it is necessary to carry out the recovery before starting the test.

Load the sample to be analyzed into the wash basket.



Insert the basket in the washing chamber



Insert the paper into the centrifugal cup

counterclockwise rotation



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Insert the cup in the centrifuge



### 7.3 SWITCHING ON



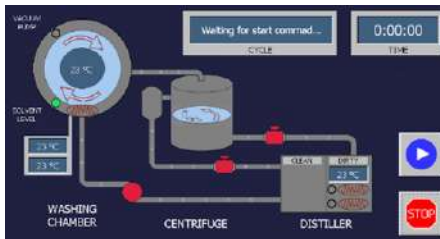
Position the main switch on "I".

### 7.4 REGULATION

It is possible to start the extraction process using the predefined parameters by selecting one of the standard test modes. Alternatively, the process can be customized by entering dedicated phases or by changing the number of cycles of certain phases.

DRAWING PROCESS DIAGRAM							
phase	Pre-Washing	→	Washing	→	Rinsing	→	Drying
Settable cycles	0÷1		2÷ 19		5÷ 9		3÷ 9

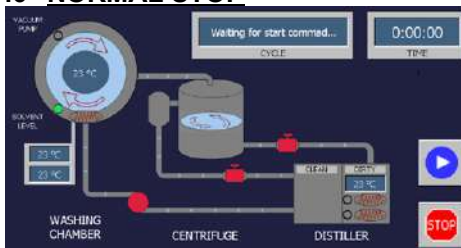
### 7.5 SWITCHING THE APPLIANCE ON



Press to start the test



### 7.6 NORMAL STOP



Press to end the test



### 7.7 EMERGENCY STOP



The test can be stopped in every moment by pushing the red safety button or to switch off the machine position the main switch on "0".

### 7.8 START UP AFTER EMERGENCY

	<p><b>WARNING DANGER</b></p>	<p>It is recommended to find the causes that stop the test and set the initial conditions</p>
--	----------------------------------	---

Put the emergency button in its initial position by turning it.

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### 7.9 STOP COMMANDED BY SAFETY CIRCUIT

If for some reason the guard is opened during the compaction and not during the pause phase, the test is immediately stopped and the alarm icon will be shown on the display.



### 7.10 START UP AFTER STOP COMMANDED BY SAFETY CIRCUIT

Close the window. Confirm the vision of alarm and reset it by pressing the button.



### 7.11 SWITCHING OFF



To switch off the machine position the main switch on “0”.

### 7.12 TEST START UP

Before using the appliance regularly check it is working correctly by carrying out at least one complete empty cycle according to the previous instructions. Should there be any problem consult the chapter “DIAGNOSTICS”. If the instructions in this manual do not provide the solution to the problem, contact Sales Assistance.



# ASPHALT MIX ANALYZER TEST



**WARNING  
DANGER**

Depending on the type of solvent used (Perchloroethylene, Trichloroethylene or Methylen chloride), different operations modes are available. Before running the test please check the machine code (e.g. B003-01 for Perchloroethylene) and the working temperatures the solvent requires.



Tap on the test icon to enter the test configuration screen

#### Commands



To spray solvent on the heating elements



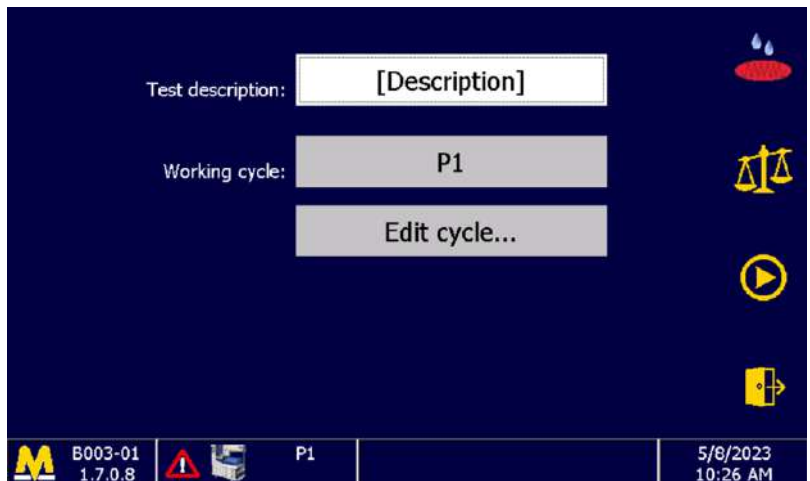
To enter the parameters of the balance



To start the TEST



To close the screen



Parameters	Values	Unit of measure (metric)	Unit of measure (U.S.)
Test description	Description that identifies the test. The test will be saved using this name and date /time information		
Working cycle	Select the working cycle among the ones proposed		

Keep the button pressed to spray solvent on the heating elements cleaning them



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The description will appear on the status bar

## Resistance cleaning

Push the button Edit Cycle to edit the cycle

### Commands



Extended Configuration



To close the screen

Parameter	Values
Working cycle	Description that identifies the test. The test will be saved using this name and the date and time information
Prewashing	It allows the pre-wash phase to be activated within the work cycle
Washing cycles	Setting number of wash cycles (2 - 19)
Rinsing	Allows the rinsing phase to be activated within the work cycle (5 - 9)
Drying cycles	Setting number of drying cycles (3 - 9)
Forced distillation	Reduces the quantity of distilled residue below one liter in case it is necessary to use the rotavapor to subsequently analyze the extracted bitumen



Tap on the test icon to enter the advanced parameters

### Commands




To close the screen

Parameters	Values	Unit of measure (metric)	Unit of measure (U.S.)
Pre-wash time	Duration in minutes of the prewash phase	min	min
Solvent time in prewash	Duration in seconds of the solvent spray in the prewash phase	sec	sec
Solvent time in wash	Duration in seconds of the solvent spray in the washing phase	sec	sec
Last cycle solvent time	Duration in seconds of the solvent spray during the last cycle of the washing phase	sec	sec

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Tap the button  to access the balance configuration parameters

### Commands



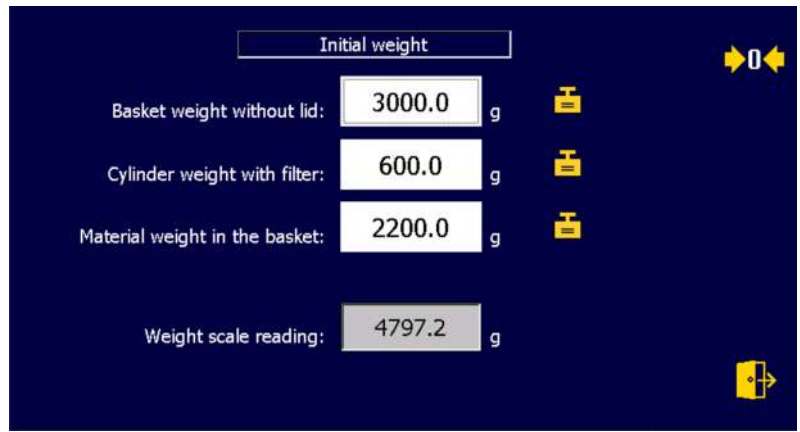
To zero the reading



To store the weight value read by the scale





To close the screen



Parameters	Values	Unit of measure (metric)	Unit of measure (U.S.)
Basket weight without lid	Weight in grams of the basket without lid	g	g
Cylinder weight with filter	Weight in grams of the complete filter cylinder	g	g
Material weight in the basket	Weight in grams of the material inserted in the basket	g	g
Weight scale reading	Current weight in grams read by the machine scale	g	g

## TEST EXECUTION



1. Make sure that the machine is in the ready state (highlighted by the icon  in the status bar)
2. Press the key  to execute the test.
3. Further to confirmation, the test execution screen appears

The machine is waiting for start command

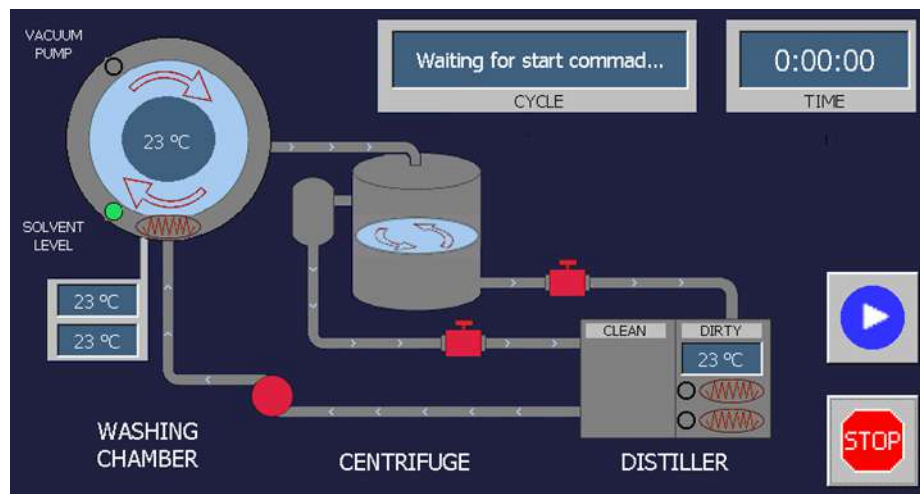
### Commands



To start the test



To close the screen



## STATUS OF OPERATION

During the test is possible to verify more deeply the operational phase of the machine:



Valve closed



Open valve



Resistance off



Resistance on



Pump off



Pump on



No liquid or device off





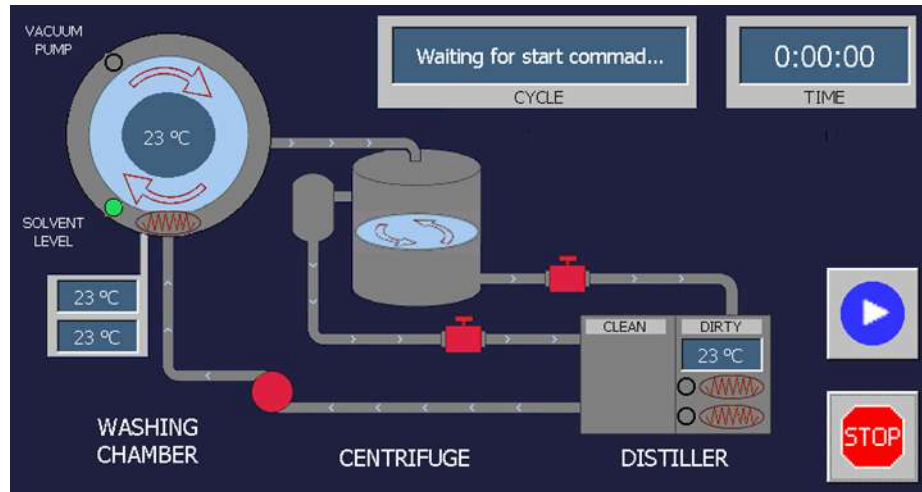
Liquid presence or device switched on

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The machine is waiting for start command


**Commands**

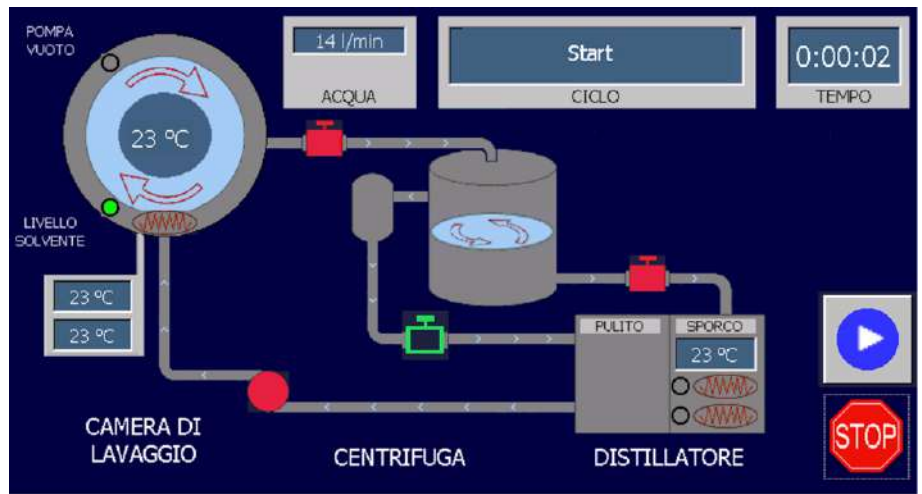
-  To start the test
-  To close the screen



Push the start button to start the cycle





**Commands**

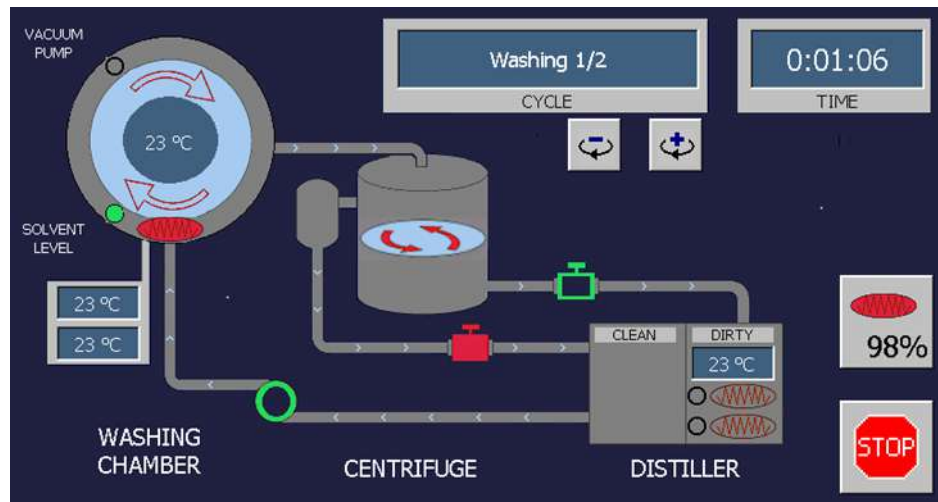
-  To close the screen



**Washing phase**

**Commands**





-  To close the screen
-  To decrease the n. of cycles
-  To increase the n. of cycles
-  To modify the distiller heating power

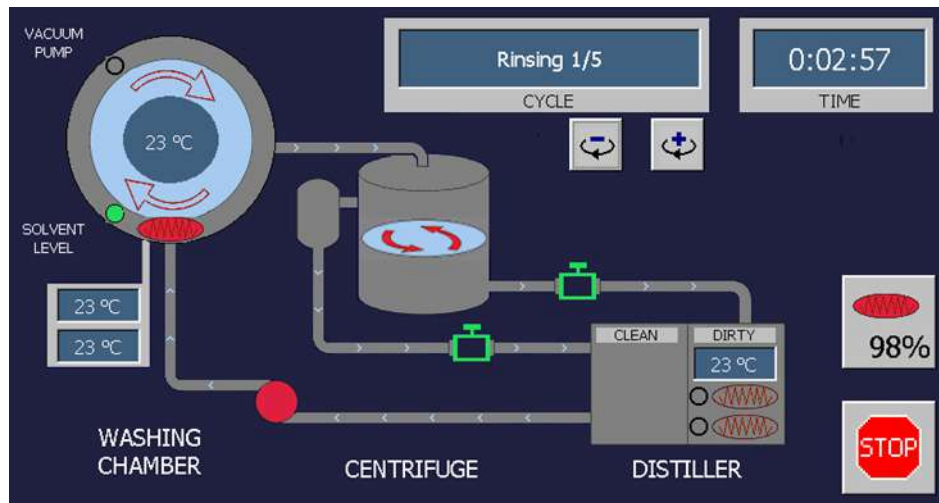


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### Rinsing phase





#### Commands

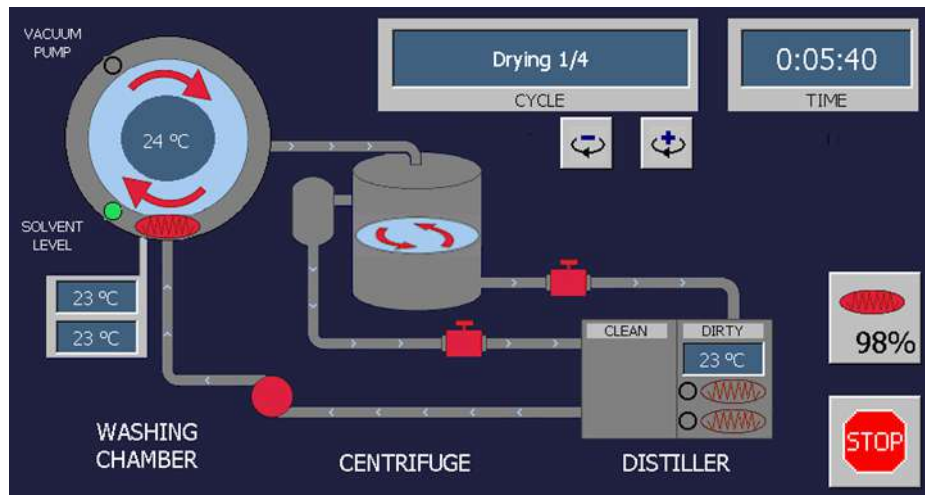
-  To close the screen
-  To decrease the n. of cycles
-  To increase the n. of cycles
-  To modify the distiller heating power




### Drying phase

#### Commands





-  To close the screen
-  To decrease the n. of cycles
-  To increase the n. of cycles
-  To modify the distiller heating power



4. Press, the button  at any time to finish the execution of the test.
5. At the end of the test, the screen with the results automatically appears:

## RESULTS

At the end of the test, the screen with the test results will be displayed showing the reason why the test ended


-  to start the distillation process
-  To set the weight of the material and recalculate the percentages
-  to close the screen
-  to enter the screen for storage and printing

**MANUAL STOP**

Working cycle: P1  
 Test time: 0:00:00  
 Basket weight without lid: 3000.0 g  
 Cylinder weight with filter: 600.0 g  
 Filler weight: 0.0 g  
 Material weight in the basket: 2200.0 g  
 Bitumen weight: 0.0 g  
 Bitumen % mixture: 0.00 %  
 Bitumen % aggregate: 0.00 %

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Press  to set the weight of the material and recalculate the percentages



To zero the reading



To close the screen

Initial weight

Basket weight without lid:  g

Cylinder weight with filter:  g

Material weight in the basket:  g



Final weight

Basket weight + material:  g


Cylinder weight with filter:  g



Parameters	Values	Unit of measure (metric)	Unit of measure (U.S.)
Basket weight without lid	Weight in grams of the basket without lid before the test	g	g
Cylinder weight with filter	Weight in grams of the complete filter cylinder before the test	g	g
Material weight in the basket	Weight in grams of the material inserted in the basket before the test	g	g
Basket weight + material	Basket weight + material when the test is finished	g	g
Cylinder weight with filter	Cylinder weight with filter when the test is finished	g	g


## STORAGE AND PRINTING





Press the key  to activate the screen for storing and printing the test results.


Choose a test description, select the print mode (partial - numerical data only, complete - numerical and graphic data). This mode has no effect in the case of printing on a USB printer (PCL compatible). Press the key to print on a thermal printer (if available)

Test description:














Make sure there is a PCL compatible printer connected and press the button  to print to the USB printer.




Make sure there is a storage device (SD-Card, Pen-Drive) in its slot and press the button  to carry out the data storage. The data will be saved, in order of priority, on SD-Card or Pen-Drive. The created file will have a name built automatically by combining the description of the test (parameter that can be set in the first configuration screen) with the date and time of the test execution



Close the saving and printing screen using the button .

## 8. MAINTENANCE

### 8.1 PERIODIC CHECKS

 <div style="background-color: #ccc; padding: 5px; display: inline-block; margin-left: 10px;"><b>DANGER</b></div>	<p>All the operations of maintenance, checking and control must be carried out by personnel professionally qualified and knowledgeable about machine and mechanisms. All the operations must be carried out when the machine is switched off and with the feeding cable physically separated from a knife switch of feeding. It is permitted to use only the original spare parts. The use of not original spare parts free the constructor from the responsibility.</p>
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Carry out punctually and correctly all the periodic checks shown below in order to prevent possible failures and malfunctions.


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<b>OPERATION</b>	<b>CHECK OF THE GENERAL EFFICIENCY</b>
<b>PROCEDURE</b>	Carry out a visual inspection of the unit and check that all parts are in good working conditions and have not been damaged.
<b>FREQUENCY</b>	<b>ALWAYS BEFORE EACH SINGLE USE</b>

<b>OPERATION</b>	<b>CLEANNES</b>
<b>PROCEDURE</b>	Remove all the residuals by using a vacuum cleaner or specific cleaning products.
<b>FREQUENCY</b>	<b>ALWAYS BEFORE EACH SINGLE USE</b>

<b>OPERATION</b>	<b>CHECK OF THE SAFETY DEVICES FUNCTIONALITIES</b>
<b>PROCEDURE</b>	Let the machine works for some minutes and simulates a test. Check the safety devices functionalities: the switch on the front guard, the emergency button, the general switch and the commands. If the machine stops the test, the safety device works correctly; if not, the operator has to stop the test immediately and follow the instructions of the chapter “ <b>GUIDE TO RECOGNISING DAMAGE AND ANOMALIES</b> ”.
<b>FREQUENCY</b>	<b>ALWAYS BEFORE EACH SINGLE USE</b>

## 8.2 ORDINARY MAINTENANCE

	<b>WARNING DANGER</b>	Do not perform maintenance – interventions on the machine which have not been quoted and described in this instructions manual without first contacting the manufacturer. Periodically clean all machine parts and oil the unpainted parts in order to preserve the machine and its efficiency. Avoid the use of solvents which damage paint and parts in synthetic material.
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## 8.3 EXTRAORDINARY MAINTENANCE

For extraordinary maintenance operations refer directly to the Manufacturer.

## 8.4 AUTHORISED MAINTENANCE CENTRES

For information on the nearest authorized help center it is essential to contact the Manufacturer.

## 9. GUIDE TO RECOGNISING DAMAGE AND ANOMALIES

This chapter presents and discusses all the simple problems which could occur during machine use. The appropriately qualified, professional personnel must carry out all the maintenance procedures, check and control, as well as all the repair operations on parts of the machine or the electrical system.

Contact Technical Sales Assistance for any other problem not listed on the previous table or should the malfunctioning persist after the intervention of the operator in accordance with the previously mentioned courses of action.

### HARDWARE SIDE

PROBLEM	POSSIBLE CAUSE	REMEDY
After activating the main switch, THE MACHINE does not turn on (the tension light is off)	No power supply	<input type="checkbox"/> Check that the electric cable is not damaged and well connected to the power source II <input type="checkbox"/> Check the external safety devices of the electrical system .
	The electric system is damaged	Contact the technical assistance service
The machine is on, but the display is off (the tension light is on)	The electric system is damaged	Contact the technical assistance service


### SOFTWARE SIDE

PROBLEM	POSSIBLE CAUSE	REMEDY
System information unavailable!	Generic alarm	Contact the technical assistance service
Analog channels unavailable!	Generic alarm	Contact the technical assistance service
Motor alarm 1!	Generic alarm	Contact the technical assistance service
Short circuit outputs alarm!	Generic alarm	Contact the technical assistance service

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Motor alarm (configuration file)!	Generic alarm	Contact the technical assistance service
Thermoregulator %d alarm (configuration file)!	Generic alarm	Contact the technical assistance service
Inverter alarm (configuration file)!	Generic alarm	Contact the technical assistance service
Run alarm (timeout)!	Generic alarm	Contact the technical assistance service
Calibrator alarm (threshold)!	Generic alarm	Contact the technical assistance service
Inverter alarm!	Generic alarm	Contact the technical assistance service
Inverter %d alarm!	Generic alarm	Contact the technical assistance service
Water flow alarm!	No water circuit flow	Check for flow in the water circuit
Solvent pump alarm!	Generic alarm	Contact the technical assistance service
Fume pump alarm!	Generic alarm	Contact the technical assistance service
High level solvent alarm in the washing chamber!	Generic alarm	Contact the technical assistance service
Low level solvent alarm in the washing chamber!	Generic alarm	Contact the technical assistance service
Washing chamber motor alarm!	Generic alarm	Contact the technical assistance service
Washing chamber door lock alarm! (disable)	Generic alarm	Contact the technical assistance service
Washing chamber door lock alarm! (enable)	Generic alarm	Contact the technical assistance service
Centrifuge motor alarm!	Generic alarm	Contact the technical assistance service
Centrifuge door lock alarm! (disable)	Generic alarm	Contact the technical assistance service
Centrifuge door lock alarm! (enable)	Generic alarm	Contact the technical assistance service
Phase sequence alarm!	Reverse power supply phase order	Contact the technical assistance service
Distiller high resistor alarm!	Generic alarm	Contact the technical assistance service
Distiller low resistor alarm!	Generic alarm	Contact the technical assistance service
Concurrency access error. Impossible to save data!	Generic alarm	Contact the technical assistance service

## 10. SPARE PARTS

	<b>WARNING DANGER</b>	<p>Only original spare parts can be used.</p> <p>Use of unoriginal spare parts exempts the manufacturer from all responsibility. Procedures for substitution of spare parts will be provided by the manufacturer along with the part. For spare parts contact the manufacturer's Sales Service department.</p>
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## 11. INACTIVITY

Ensure all machine parts are in safe working order before operating it again should the machine be inactive for a long period of time. When in doubt contact the Manufacturer.

## 12. DECOMMISSIONING THE MACHINE

Should it be decided that the machine is to be no longer used, proceed as follows:

- Disconnect the electrical supply network by removing the connecting cable therefore making it unusable.
- Make the potential sources of danger harmless, such as sharp or protruding parts.
- Dismantle the machine; divide it into similar parts and dispose of according to the standards in force

**Recycling notice for the disposal of electrical and electronic devices**

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This symbol, shown on the device or on the package and/or the documentation, suggests that the device should not be disposed together with other home garbage at the end of its life cycle. To avoid further environment, or health-care damage, caused by the unsuitable disposal of garbage, the user should separate this device from other different types of garbage and recycle it in responsibly to avoid the reuse of material resources. Users must take care at the disposal of the equipment by taking it to the nearest recycling site for appropriate recycling treatment for electrical and electronic devices. Gathering and Recycling deplete devices allow the preservation of natural resources and grant them the adequate treatment by respecting health and environment. For further information on your local recycling site please contact your local council or city waste treatment department.

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### 13. ANNEX I – DASHBOARD MACHINE FEATURES

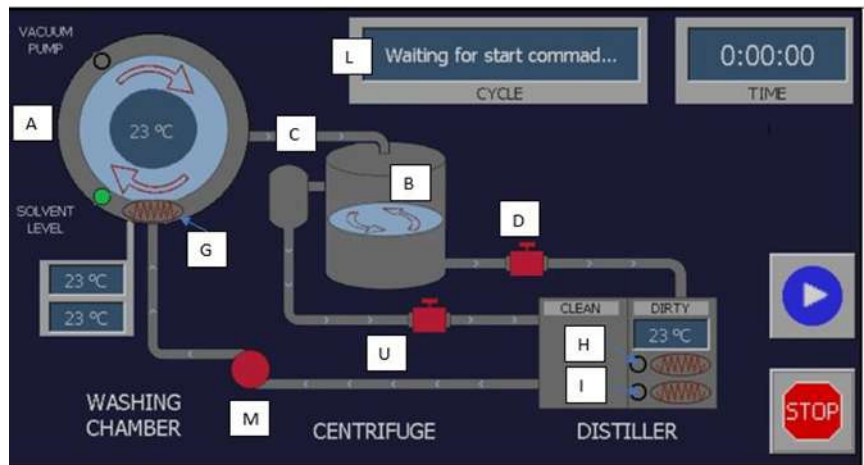
From firmware version **1.6.2** onwards, a Dashboard option can be accessed from the Manual positioning menu. The dashboard permits to check that each component of the machine is correctly working (that means each component can be properly opened/closed/switched on/switched off). The Dashboard menu is password protected and the password is **2222**.

	<b>WARNING DANGER</b>	<b>The dashboard menu must be used only further to authorization of Matest personnel. Improper use can result in significant damages to the machine. Do not activate the heating elements without the presence of solvent.</b>
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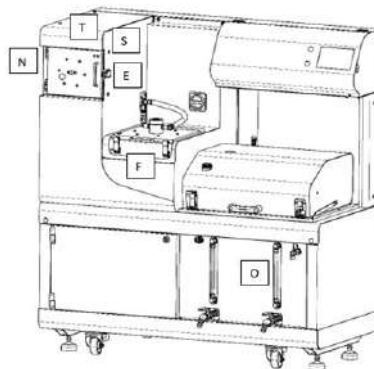
Manual positioning



Legend A

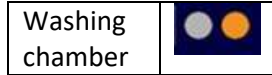


Legend B



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**Legend C**





The washing chamber option counts with two LEDs. The first one gets active only in presence of a motor alarm. The second led indicates whether the chamber is empty of solvent (orange color) or full of solvent (green color)

**Legend D**

**Legend E**

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#### 14. ANNEX II – CLEANING INSTRUCTIONS FOR THE DRAINAGE HOSE

 	<b>WARNING</b>	It indicates that machine damage and/or injury to the worker could be caused should indications be ignored.
	<b>DANGER</b>	



- 1 -Switch the machine off and remove the feeding cable.
- 2- Remove all the six screws which are present on the lateral panel on the left side.
- 3- Remove the panel.
4. Remove the flexible hose by loosening the brass fitting marked in picture.

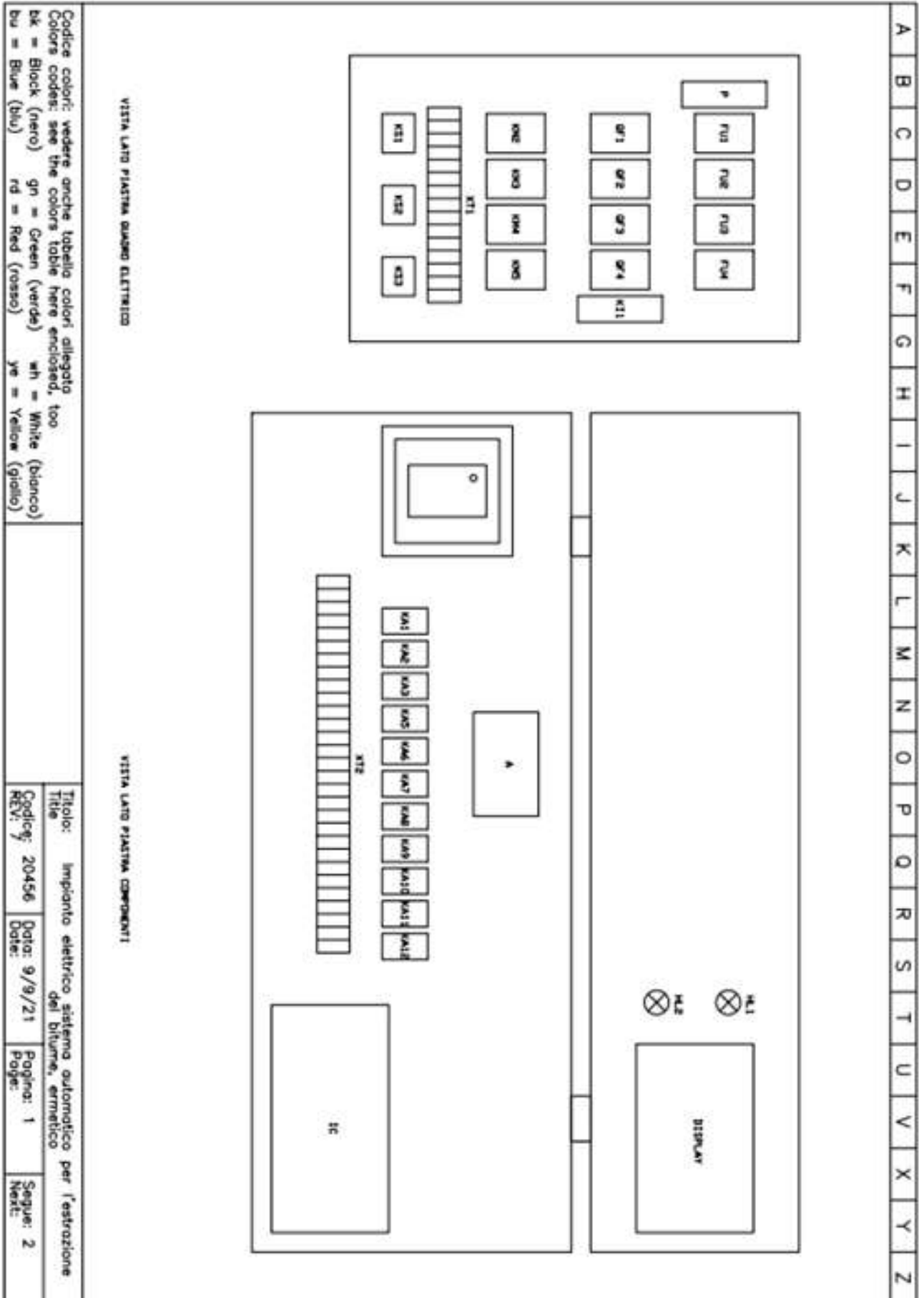


- 1- Use a 17mm allen key in order to remove the stopper shown in picture.
- 2- Using an adequate air compressor, blow air from the free end so to remove all the residual parts which might be present inside the tube.
- 3- Tighten the stopper and re-assemble the flexible hose again.

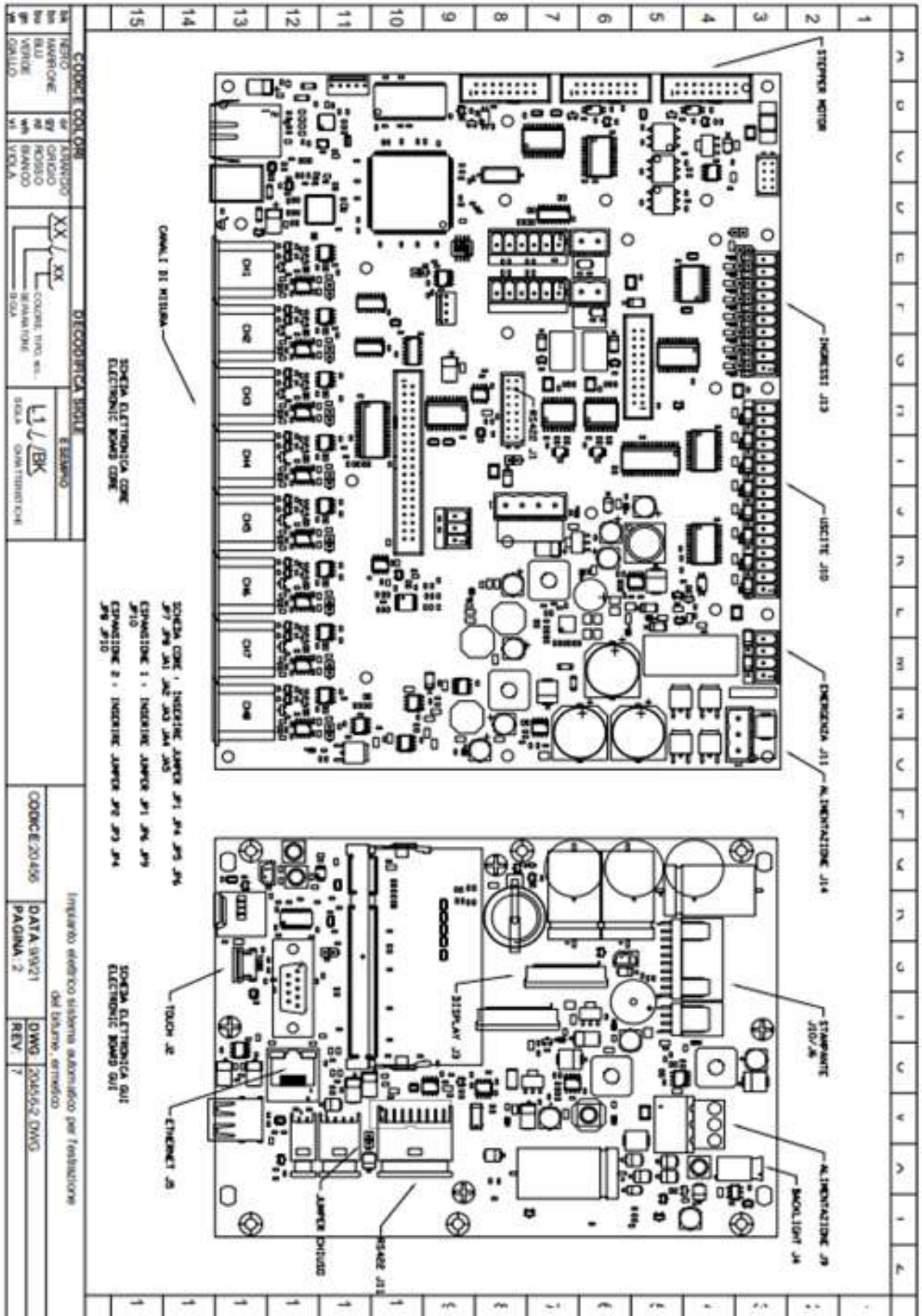
Remount the external cover panel by tightening the six screws.

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## 15. ANNEX III - ELECTRIC SYSTEM DIAGRAMS

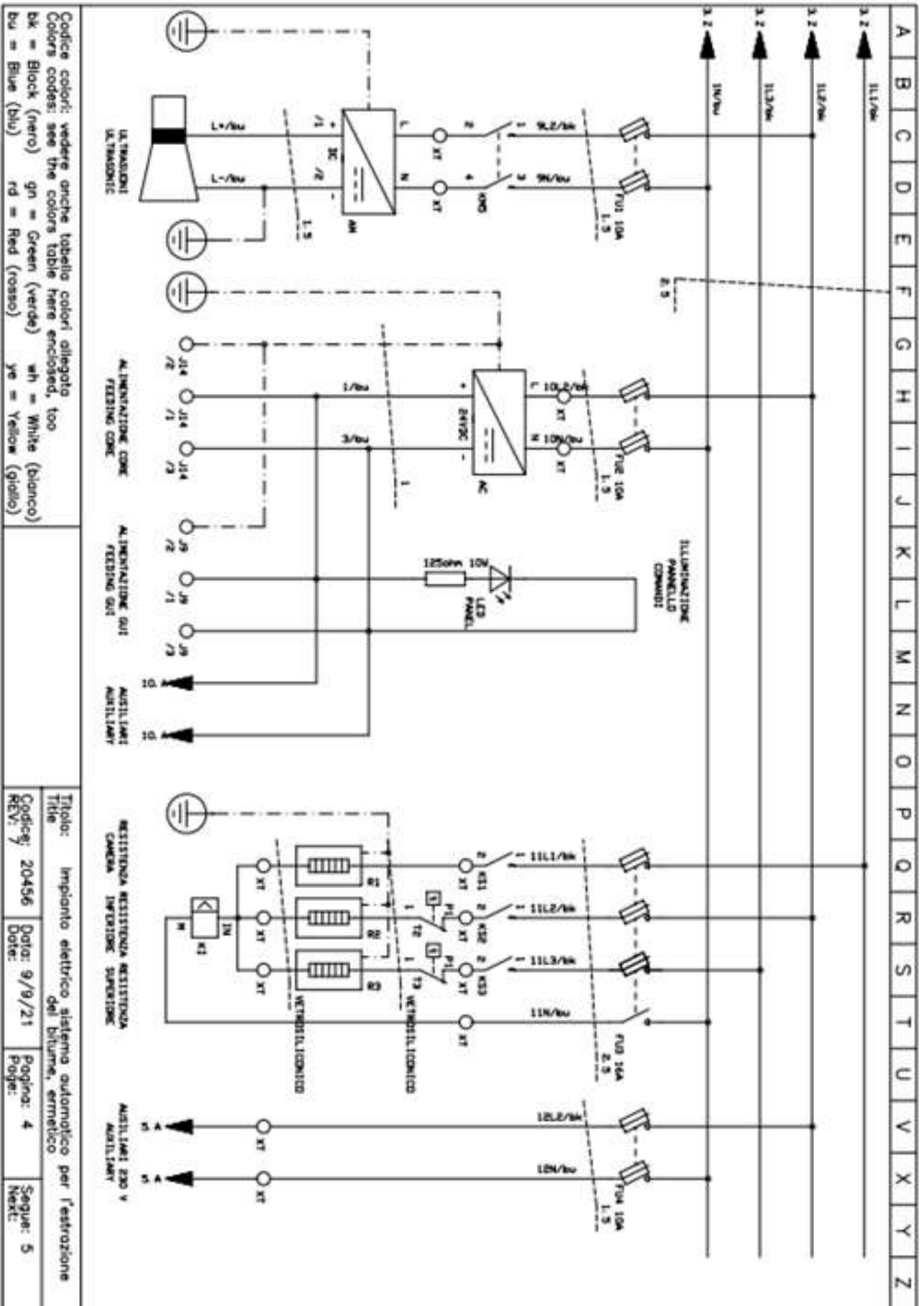


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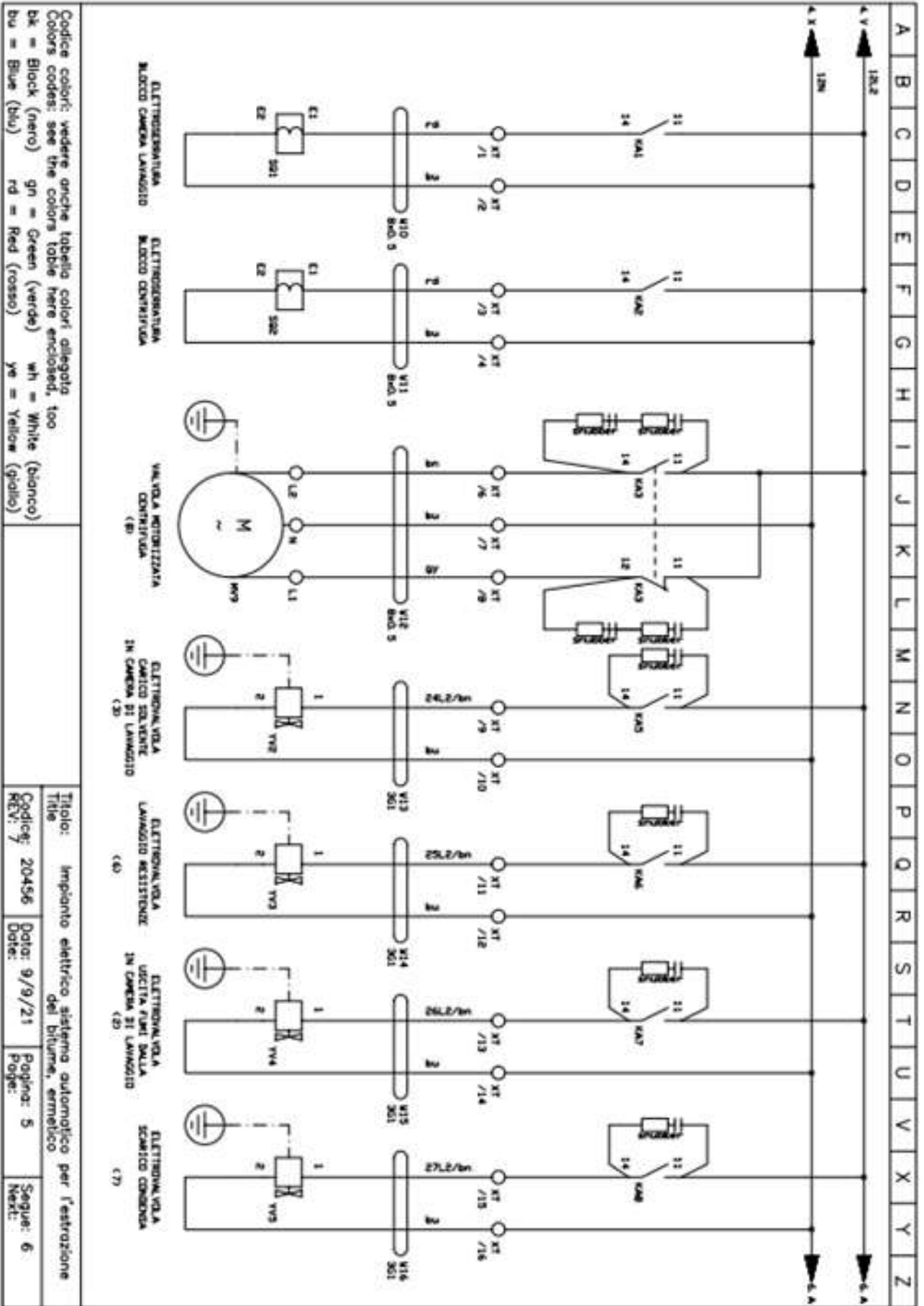
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del bitume, ermetico

Codice: 20456  
Data: 9/9/21  
Pagina: 4  
Segue: 5

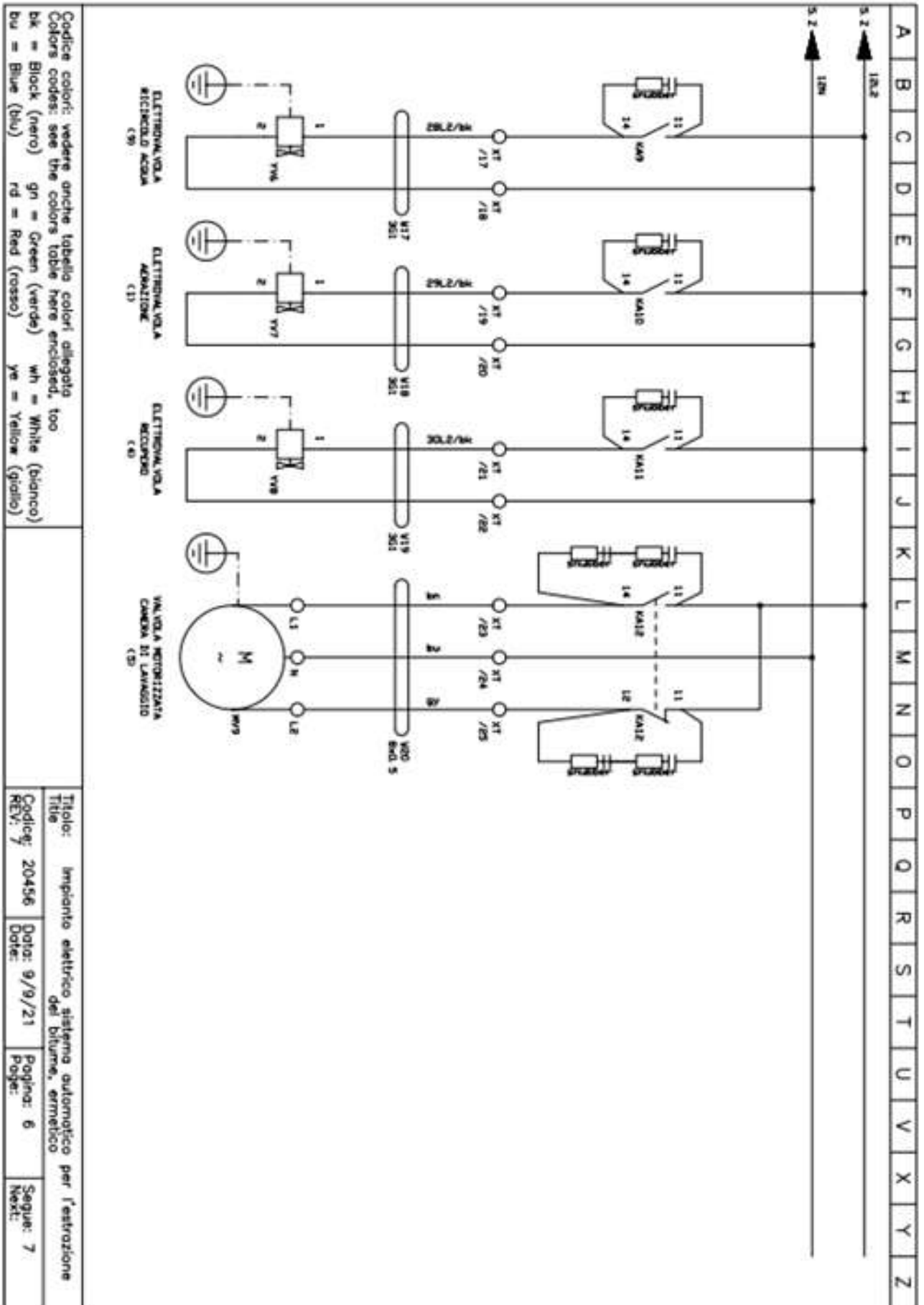
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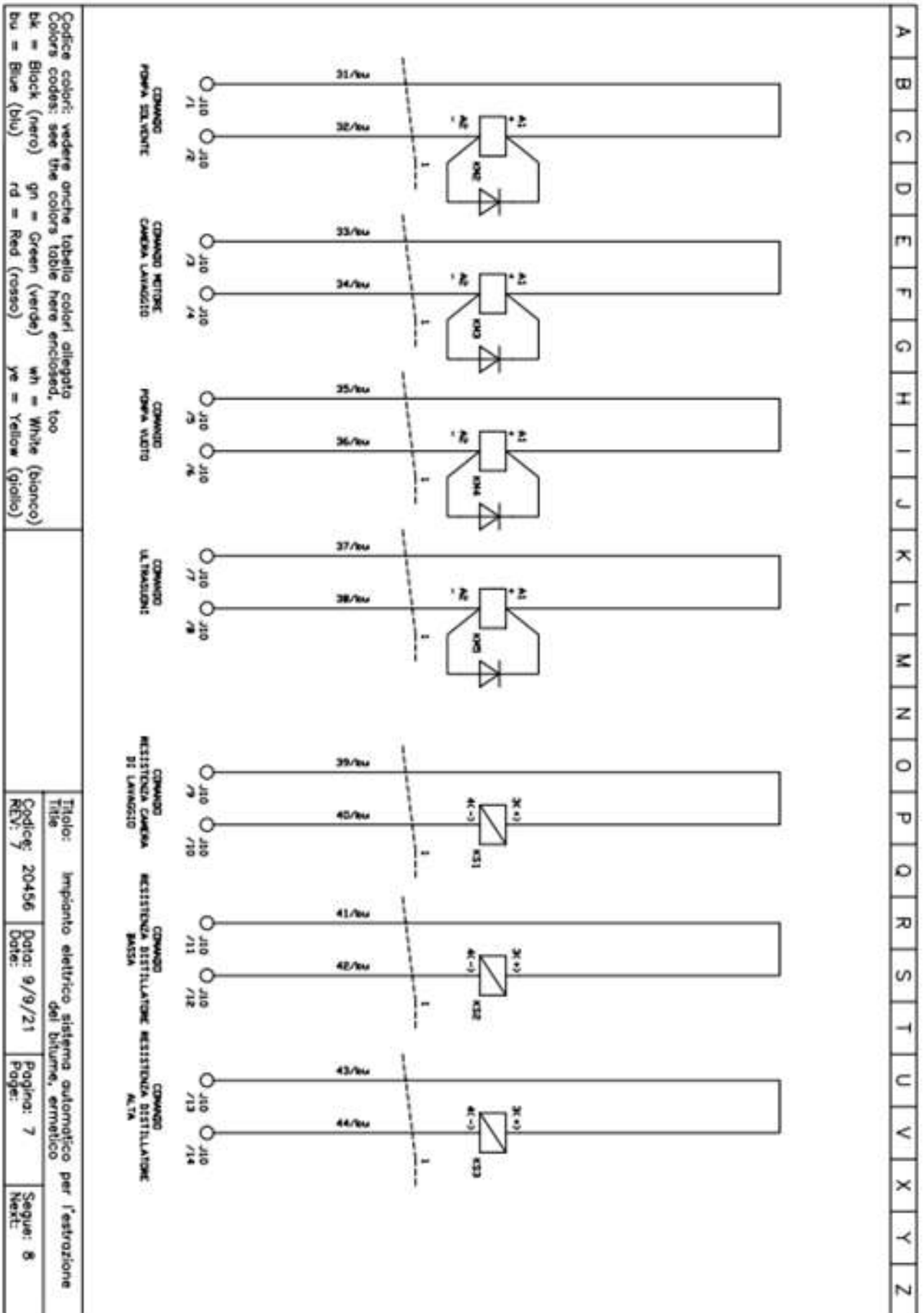
Codice colori: vedere anche tabella colori allegata  
 Colors codes: see the colors table here enclosed, too  
 bk = Black (nero)    gn = Green (verde)    wh = White (bianco)  
 bu = Blue (blu)    rd = Red (rosso)    ye = Yellow (giallo)

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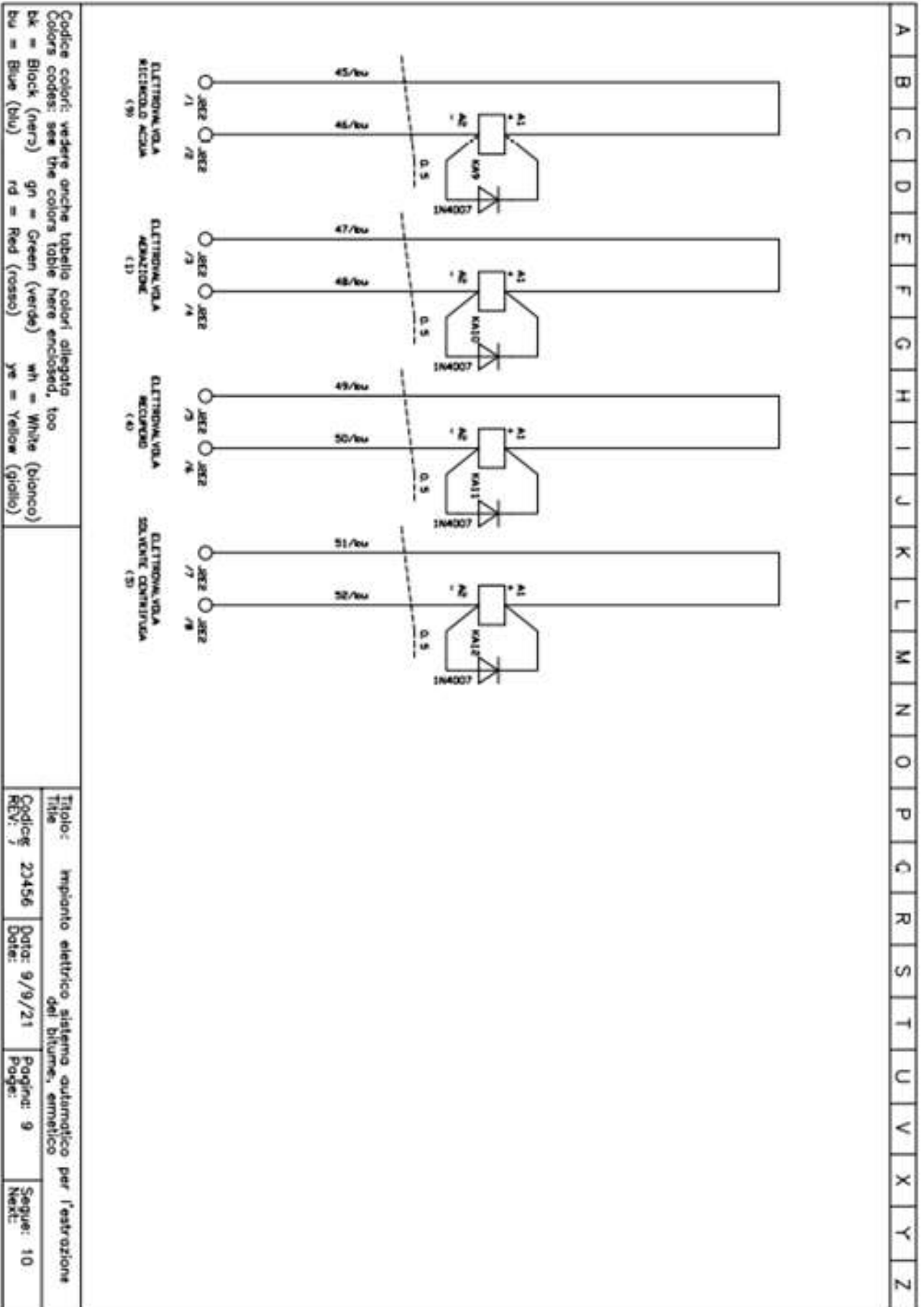


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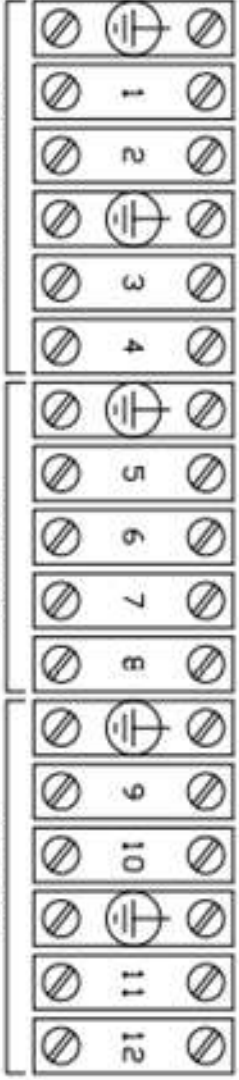






A B C D E F G H I J K L M N O P Q R S T U V X Y Z

# MORSETTIERA XT



Codice colori: vedere anche tabella colori allegata  
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Titolo: Impianto elettrico sistema automatico per  
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