



INSTRUCTION MANUAL

CYCLOMIX™ MULTI
CYCLOMIX™ MULTI PH
MIXING MACHINE

Manual : 1302 573.185.112

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Modif : Label markings + Screens updated + Page 34

TRANSLATION OF THE ORIGINAL MANUAL

IMPORTANT : before assembly and start-up, please read and clearly understand all documents relating to this equipment (professional use only).

PICTURES AND DRAWINGS ARE NON CONTRACTUAL. WE RESERVE THE RIGHT TO MAKE CHANGES WITHOUT PRIOR NOTICE.

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TABLE OF CONTENTS

1. GENERAL SAFETY INSTRUCTIONS.....	3
■ INSTALLATION REQUIREMENTS.....	3
■ EQUIPMENT REQUIREMENTS	3
■ MAINTENANCE REQUIREMENTS	4
■ ENVIRONMENT.....	4
2. DESCRIPTION.....	5
3. OPERATING PRINCIPLE.....	7
4. TECHNICAL FEATURES	8
5. INSTALLATION	8
■ DESCRIPTION OF THE LABEL MARKINGS	8
■ INSTALLATION DIAGRAMS.....	9
■ CONNECTION OF THE CONTROL BAY AND OF THE MATERIAL PART.....	11
6. OPERATING.....	13
■ DRIVING FROM THE MACHINE	13
■ SWITCHING ON THE MACHINE	13
7. FIRST SWITCHING ON	14
8. FIRST PLACING INTO OPERATION.....	15
■ FLUSHING OF THE PUMPS AND OF THE MACHINE INTO SOLVENT	15
■ START-UP OF THE MACHINE.....	15
9. APPLICATION PROGRAMMING	16
■ LIST OF THE PARAMETERS.....	17
■ EXPLANATION OF THE PARAMETERS	18
■ PARAMETERS OF THE PROGRAMS.....	22
■ SET UP THE PRIMING.....	24
■ BASE FLUSHING PARAMETER	25
■ BASE AND CATALYST CALIBRATION PARAMETER.....	26
■ CONSUMPTION OF THE FLUIDS	27
10. MANUAL PRODUCTION.....	27
11. CHANGE OF PROGRAM	28
12. BATCH.....	29
13. MIXING TEST	30
14. WEEKEND FLUSHING OR PRODUCTION FLUSHING	31
15. OTHER MENUS.....	32
■ AUTOMATIC MENU.....	32
■ AUTO-WASH MENU	35
16. MAINTENANCE.....	36
17. TROUBLESHOOTING.....	37
18. DISASSEMBLY - REASSEMBLY	42
■ MIXER.....	42
■ PILOTTED VALVES - 200 BAR / 2900.6 PSI (FLUID VALVES AND TEST VALVES)	42
19. PREVENTIVE MAINTENANCE PLAN	43

ADDITIONAL DOCUMENTS :

<u>Declaration</u>	EC declaration of conformity	Doc. 578.033.130-UK
<u>Annexes</u>	Pneumatic and electric diagrams Mixing ratio chart	Doc. 573.185.120
<u>Spare parts</u>	Cyclomix or Cyclomix PH	Doc. 573.344.050 or Doc. 573.358.050
	Color changer	Doc. 573.186.112 + 573.187.050 + 573.188.050
	Flow switch	Doc. 573.320.050
	AIRMIX® filter	Doc. 573.253.050

Dear Customer,

You are the owner of our new mixing machine and we would like to take this opportunity to thank you.

To make sure your investment will provide full satisfaction, special care has been taken by KREMLIN during all designing and manufacturing processes.

To obtain the best result, safe and efficient operation of your equipment, we advice you to read and make yourself familiar with this instruction and service manual. Indeed, the non-compliance with instructions and precautions stated in this manual could reduce the equipment working-life, result in operating trouble and create unsafe conditions.

1. GENERAL SAFETY INSTRUCTIONS



The CYCLOMIX™ MULTI mixing machine control bay shall be installed outside the explosive area. It shall be installed in a safe area (non-explosive area according to the ATEX directive - refer to § 6).

WARNING : Any misuse of the equipment or accessories can damage them, result in serious body injury, fire or explosion hazard and reduce the equipment working life. Read, understand and comply with the safety instructions hereafter.

The personnel involved in operating and servicing this equipment must be aware of all safety requirements stated in this manual. The workshop supervisor must be certain that the personnel has perfectly understood the safety instructions and complies with them.

Read all instruction manuals as well as the tags of the equipments before operating the equipment.

Read local safety instructions and comply with them.

■ INSTALLATION REQUIREMENTS

☞ Ground the equipments.

Use the equipment only in a well-ventilated area to prevent from serious body injuries, fire and explosion hazards. Do not smoke in the spray area.

Never stock paints and solvents in the spray area. Always close the pots and the tins.

Keep the spray area clean and free from debris (solvent, rags,...). Read paint and solvent manufacturer's technical instructions. Spraying of some materials may result in hazardous working conditions. To protect the operator, respirator mask, hand cream and glasses are required (Refer to chapter "Safety equipment" of KREMLIN selection guide).

■ EQUIPMENT REQUIREMENTS

The operating pressure of these equipments is particularly high. Consequently, some precautions must be taken in order to prevent from accidents and from unsafe working conditions.

☞ Never exceed the components maximum working pressure of the equipment.

HOSES

Do not use hoses with a maximum burst-proof pressure less than four times the maximum service pressure of the pump (see data sheet).

Be certain hoses are not crimped, leaking and not unrolled.

Be certain hoses are in good conditions and showing no evidence of damage.

☞ Use only air hose with static conductor to connect the pump with the spray gun.

All fittings must be tight and in good condition.

PUMP

☞ Ground the equipment (use the connection on the pump).

Do not use any product or solvent incompatible with the pump components.

Use the appropriate solvent for the material being sprayed to increase the equipment working life.

GUN

Never wipe the end of the tip with the fingers.

Always depressurize air and fluid hoses before carrying out any servicing on the gun.

Never point the spray gun at anyone or at any part of the body.

CYCLOMIX™ MULTI

➡ Do not install the control bay in an explosive area. It shall be in a safe area (non-explosive area).

➡ Connect the control box to a mains supply fitted with a ground.

➡ A earth cable fits the material box. Connect the earth cable to a ground.

Do not use any product or solvent incompatible with the machine components.

Use the appropriate solvent for the material being sprayed to increase the equipment working life.

➡ Wear protective glasses to protect the operator from possible discharges during the handling of the CYCLOMIX™ MULTI machine test valves.

➡ Do not use electrostatic spraying for water-based paints or paints with a resistivity lower than 10 MΩ.

■ MAINTENANCE REQUIREMENTS

Guards (air motor cover, coupling shields, housings,...) have been designed for safe use of the equipment.

The manufacturer will not be held responsible for bodily injury or failure and / or damage to property due to removal or partial removal of the guards.

➡ Never modify these equipments.

Check them daily, keep them in a good condition and replace the worn parts **only with KREMLIN parts.**

Before cleaning or removing components of the equipment, it is compulsory :

1 - to stop the air supply,

2 - to open the gun fluid circuit to depressurize the hoses,

3 - to shut off the machine electrical supply,

4 - to open the drain valves.

■ ENVIRONMENT



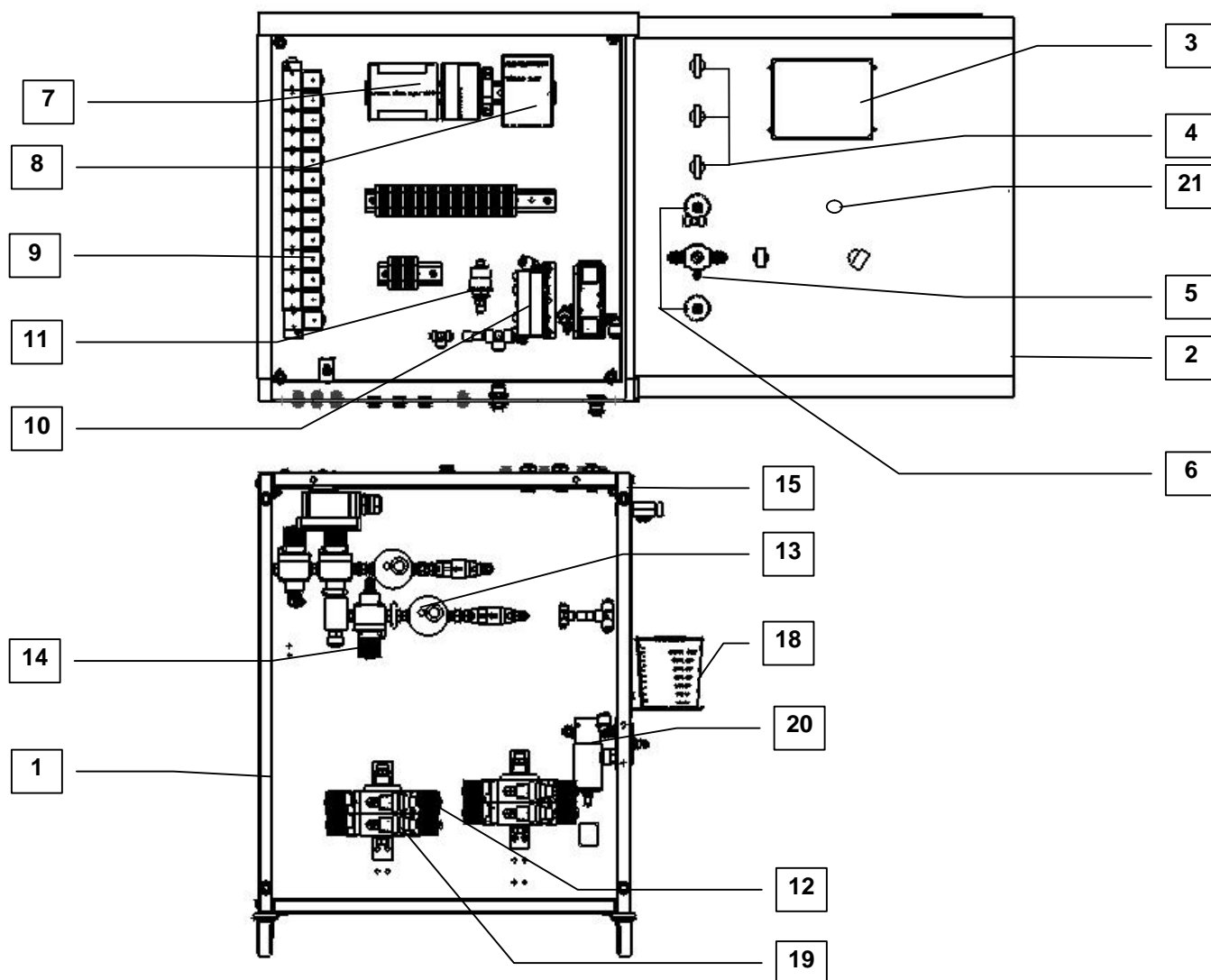
This equipment consists of a label plate with the name of the manufacturer, the equipment part number, the interesting informations to use correctly the equipment (pressure, voltage...) and the above pictogram.

The equipment is designed with and consists of high quality materials and components which can be re-used.

The 2002/96/EC European Directive covers all equipments with a crossed-out bin pictogram. Please inform yourself about the collection systems for electric and electronic equipments.

Please act according to local rules and **do not throw the old equipments with household wastes.** A correct disposal of the old equipment will help prevent negative consequences for the environment and health.

2. DESCRIPTION

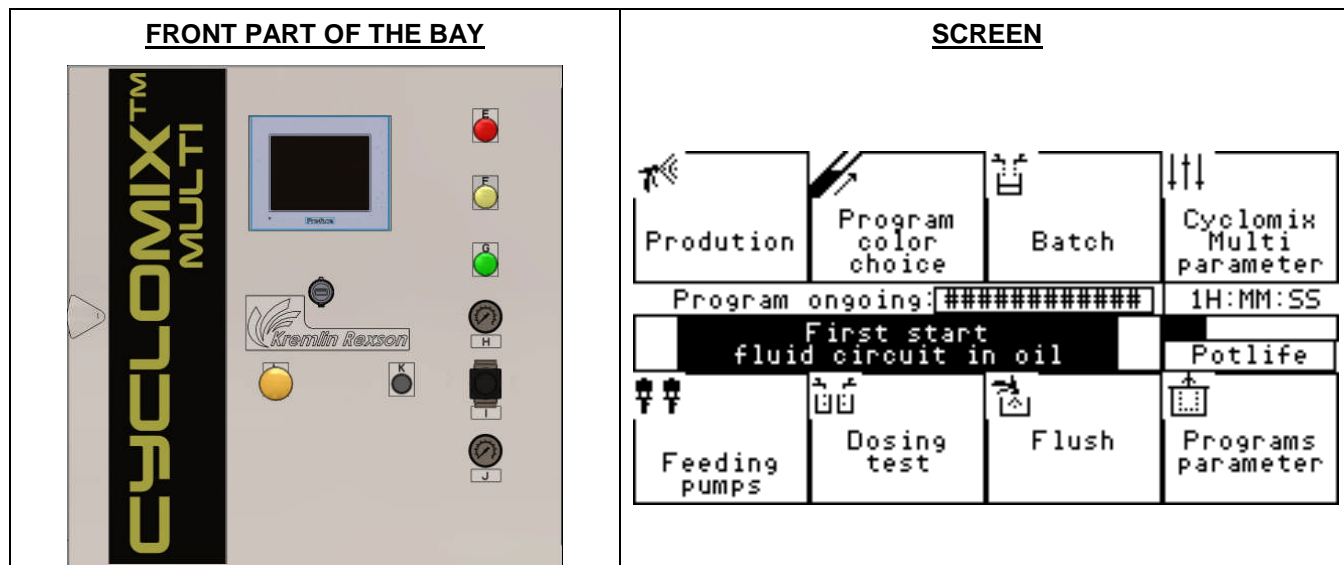


1	Frame
2	Control bay
3	Screen
4	LED
5	Air regulator
6	Gauge
7	Automaton
8	Supply
9	Electrovalve
10	Flowmeter
11	Pressure switch

12	Color changer
13	Meter
14	Automatic valve
15	Test valve (TA & TB)
16	Cord grip (robot interface unit)
17	Cord grip (STD9 box supply)
18	Beaker support (test valves)
19	Airmix® filter in line
20	Air filters
21	USB Port
	IN0 (cata) - IN1 (base) : automaton inlets

The CYCLOMIX™ MULTI mixing machine is designed for applying two-component paints and varnishes (water-based or solvanted). It is available for 3 technologies of application : pneumatic spraying, AIRMIX® spraying, AIRLESS® spraying (maximum pressure : 200 bar / 2,900 psi).

It comes in an independent and moving form. It is only supplied with compressed air (maximum 6 bar / 87 psi). It consists of : a control bay with automaton and electropneumatic control components, a frame with a module that receives the volumetric meters and the automatic valves for materials and solvents.



Ind.	Description	Function
E	Red LED	Fault
F	Orange LED	Operating (except production)
G	Green LED	Production
H	Gauge	Reading of the spraying air pressure (gun)
I	Air regulator	Adjustment of the spraying air pressure (gun)
J	Gauge	Reading of the CYCLOMIX™ MULTI air supply pressure
K	Black push-button	Emergency flushing if electricity shut off
L	Yellow push-button	Function stop

The machine is totally programmable via a man/machine interface. The screen indicates continuously, by a simple identification, the statuses of the machine and enables to have access to the essential functionalities : ON / OFF - FLUSHING - PRODUCTION.

The informations relating to the operating of the machine (real-time display of the ratio, of the consumption...) can be read on the LCD screen.

The CYCLOMIX™ MULTI saves continuously the instantaneous consumptions of base, catalyst and solvent as well as the total consumptions and the emissions of Volatile Organic Compounds (VOC) during the operating of the machine.

On the cover plate, there are two cord grips. They are useful for the interface unit with a robot in the situation of an automatic spraying and for supplying a STD9 box (115V / 230V) in the situation of using an electrostatic gun.



Do not use electrostatic spraying for water-based paints or paints with a resistivity lower than 10 MΩ.

3. OPERATING PRINCIPLE

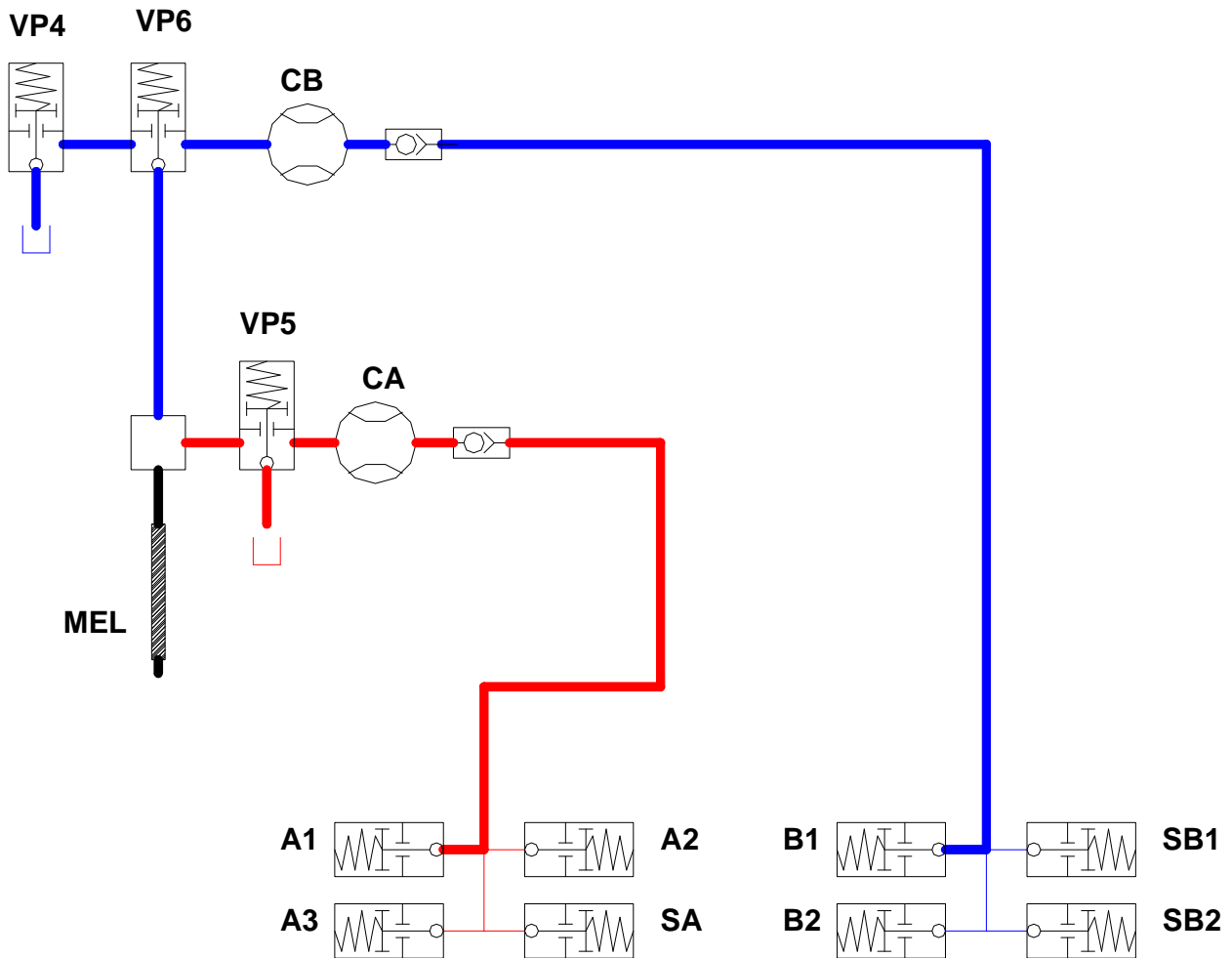
The BASE and CATALYST materials are sent to the mixing machine from pumps or pressure tanks.

Each material crosses a piloted valve and a meter. The cycle begins with the simultaneous opening of the CATALYST and BASE valves. The 2 meters send their informations to the computer that shuts off the catalyst valve when the computerized mixing ratio is reached.

The mixing process is based on a base constant flow. The catalyst flow is injected low in frequency. The injection is made directly into the base flux at the mixer level.

The automaton checks continuously the mixing ratio and if it notices a fault that it cannot correct, an alarm is activated. The machine goes on safety mode.

Example of machine : 2 catalysts and 3 colors



A1	Base 1 piloted valve
A2	Base 2 piloted valve
A3	Base 3 piloted valve
SA	Base solvent piloted valve
B1	Cata 1 piloted valve
SB1	Cata 1 solvent piloted valve
B2	Cata 2 piloted valve

SB2	Cata 2 solvent piloted valve
VP4	Cata test piloted valve
VP5	Base test piloted valve
VP6	Injection piloted valve
CA	Base meter
CB	Cata meter
MEL	Mixer

4. TECHNICAL FEATURES

<p>Number of colors : from 1 to 7 Number of catalyst : from 1 to 3 Solvent and water-based paints compatibility Possibility of automatic piloting via robot Control external PLC Batch Different access levels to the software Multilingual display Display on the screen, in text form of the machine operating, parameters, alarms and faults</p> <p>Mixing permanent check Adjustable threshold alarm Adjustable pot-life indicator Automatic mixing control cycle Automatic flushing cycle VOC display Total indicator for base, catalyst and solvent consumption</p>	<p>Voltage : 230V / 115V - 75W Minimum air pressure : 4 bar / 58 psi Fluid pressure : from 2 to 200 bar / from 29 to 2900 psi Weight : 65 kg / 143 lbs Control box dimension : ⇒ l = 600 mm / 23.6" , h = 600 mm / 23.6" , depth = 210 mm / 8.27" Material box dimension : ⇒ l = 600 mm / 23.6" , h = 770 mm / 30.3" , depth = 400mm / 15.75" Stainless steel fluid circuit (base and catalyst) for Cyclomix multi standard 316 L stainless steel catalyst circuit for Cyclomix multi PH Adjustable mixing ratio : from 0,6/1 to 20/1 and one component (BASE volume / CATALYST volume) (from 166% to 5% and 0%) Measure precision : 1 % Mixed fluid flow : from 50 to 2000 cm³/mn Fluid viscosity : from 30 to 5000 cps</p> <p>OPTION : Auto-wash Remote control box Fiber optic kit</p>
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5. INSTALLATION


■ DESCRIPTION OF THE LABEL MARKINGS

The CYCLOMIX™ MULTI machine is fitted with 2 label markings : a label marking on the control box and another one on the material box.

Label marking on the control box
(box located outside the spray booth)

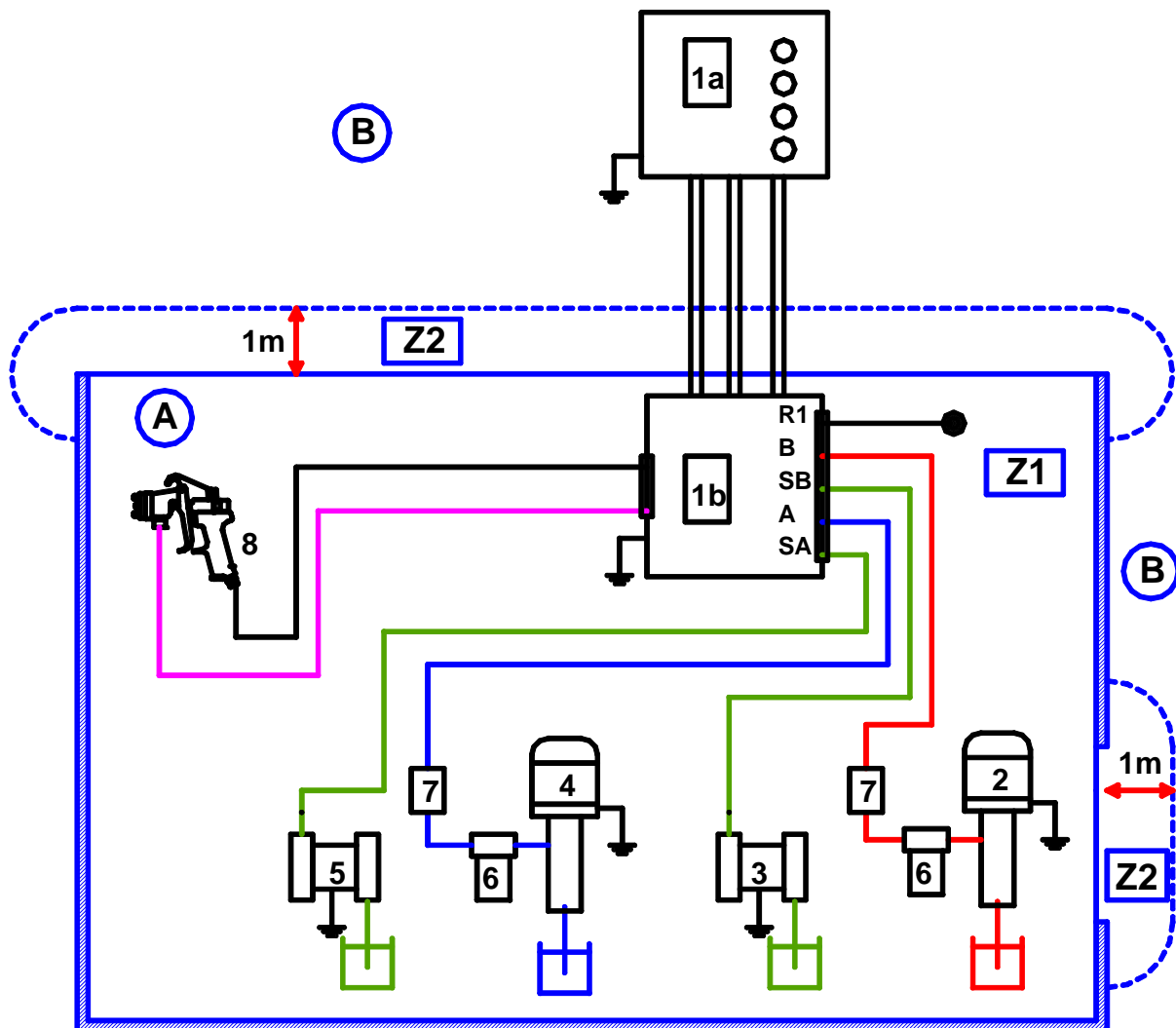
Label marking on the material box
(material box located inside the spray booth → marking in accordance with the ATEX directive)

Marking in accordance with the ATEX Directive

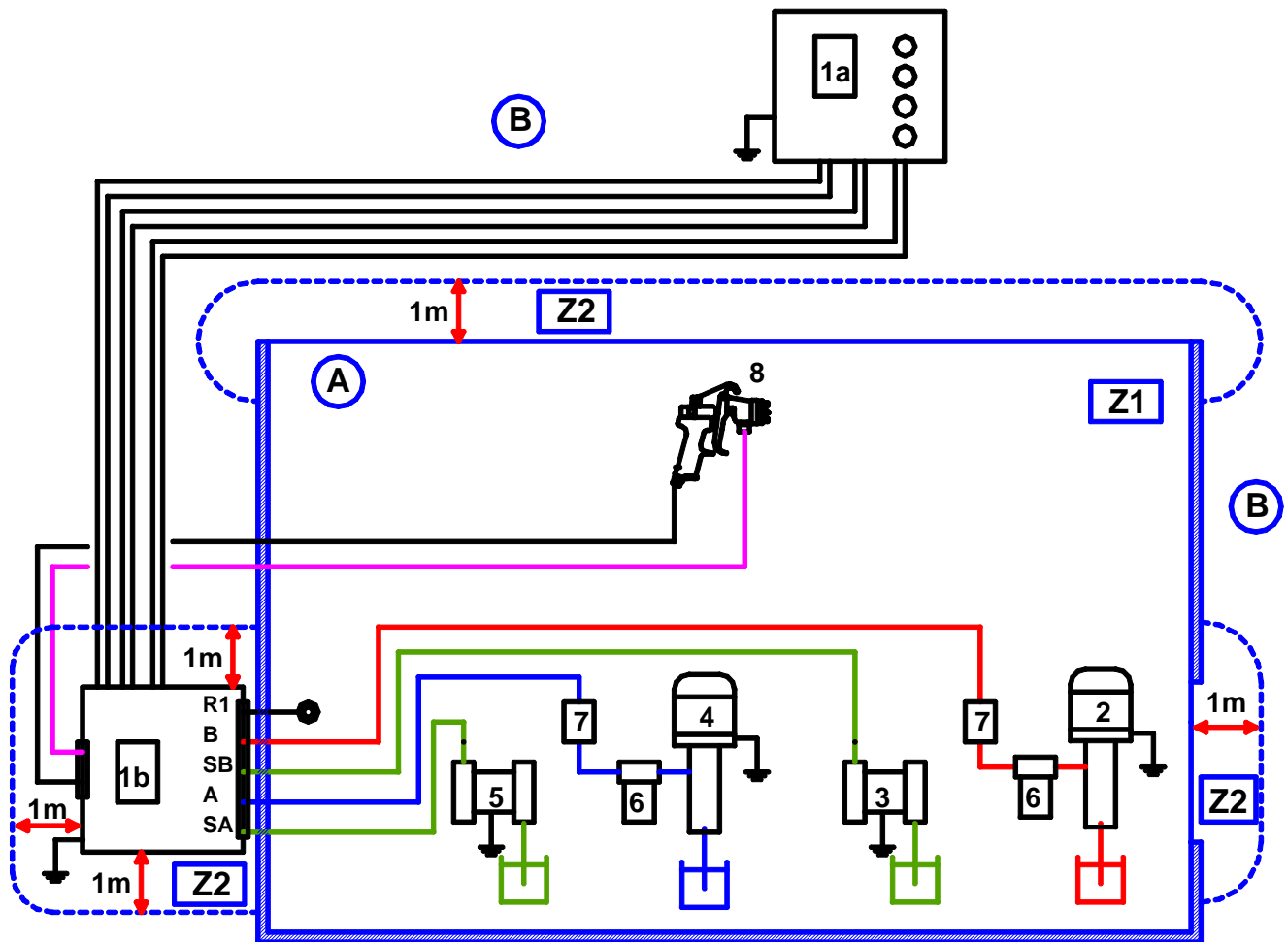
KREMLIN REXSON STAINS FRANCE	Name and address of the manufacturer
CE  II 2 G	II : group II 2 : class 2 Surface equipment meant to an area where explosive atmospheres due to gas, vapours, mists are liable to appear from time to time in usual operating. G : gas
Tension	CYCLOMIX™ MULTI machine voltage
P air	Maximum air pressure
P prod	Maximum fluid pressure
Serie / Serial	Number given by KREMLIN REXSON. The two first numbers indicate the manufacturing year.
Ref	CYCLOMIX™ MULTI machine part number
Phase	Single phase
Fréquence	50-60Hz / Mains frequency
Ampérage	Maximum current used

■ **INSTALLATION DIAGRAMS**

1 - INSTALLATION OF THE FLUID PART IN A SPRAYBOOTH



2 - INSTALLATION OF THE FLUID PART OUTSIDE THE SPRAYBOOTH



A	Explosive area : area 1 (Z1) or area 2 (Z2) (spray booth)	4	BASE pump
B	Non-explosive area (safe area)	5	SOLVENT pump (base)
1	CYCLOMIX™ MULTI mixing machine 1a : Control bay 1b : Fluid part	6	Filter
2	CATA pump	7	Fluid pressure regulator
3	SOLVENT pump (cata)	8	Gun



The 1 m / 39.37" distance indicated in these diagrams is given for information only and holds harmless KREMLIN REXSON. The user is liable for the exact delimitation of the areas which depends on the material used, the material environment and on the use conditions (refer to EN 60079-10 standard). The 1 m / 39.37" distance could be adapted if the analysis carried out by the used requires it.



Connect the control box to a mains supply fitted with a ground.
A earth cable fits the material box. Connect the earth cable to a ground.

■ CONNECTION OF THE CONTROL BAY AND OF THE MATERIAL PART



The control box of the CYCLOMIX™ MULTI mixing machine must be outside the spray booth.

Check the mains voltage and the voltage of the CYCLOMIX™ MULTI machine.

The CYCLOMIX™ MULTI must be connected to a clean and dry compressed air network (minimum 4 bar / 58 psi) and to a single-phase electric supply (230 V / 115V). An air filter installed on the air supply of the machine equips the CYCLOMIX™ MULTI.



The length of the connections between the control bay and the material part must not exceed 10 meters.

Assemble fluid hoses and air hoses between the pumps and the CYCLOMIX™ MULTI and between the CYCLOMIX™ MULTI and the gun. When choosing fluid hoses, respect the pressures delivered by the pumps. For the air hoses, assemble antistatic hoses.

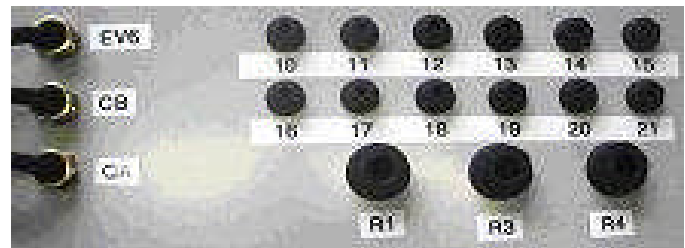
You will connect on top part of the material part frame :

R1 (Polyamide hose 7X10) : air supply hose

R3 (Polyamide hose 7X10) : box supply hose (to connect on R3 of the box cover plate)

R4 (Polyamide hose 7X10) : spraying air supply hose (to connect on R4 of the box cover plate)

From 10 to 21 (hose 2.7X4) : to connect on the box cover plate (same marking)



Connection of the meters and of the catalyst injection electrovalve :

CA (electric cable 3 points)

CB (electric cable 3 points)

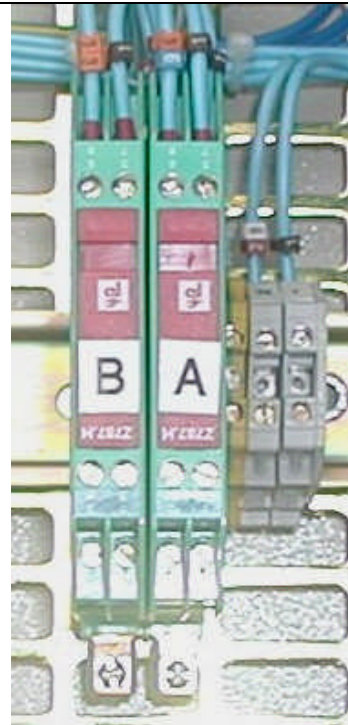
→ Electric cables 3 points supplied.

ZENER barriers → refer to electric diagram (see "Annexes" - Doc. 573.185.120)

EV6 (electric wire 2 points) :

→ Electric cable 2 points supplied.

wire index 1 on the terminal 1 and wire index 29 on terminal 29 of the box.



Gun connection :

Connect the gun on the 2 outlets located on the plate on the right (air and fluid supply).

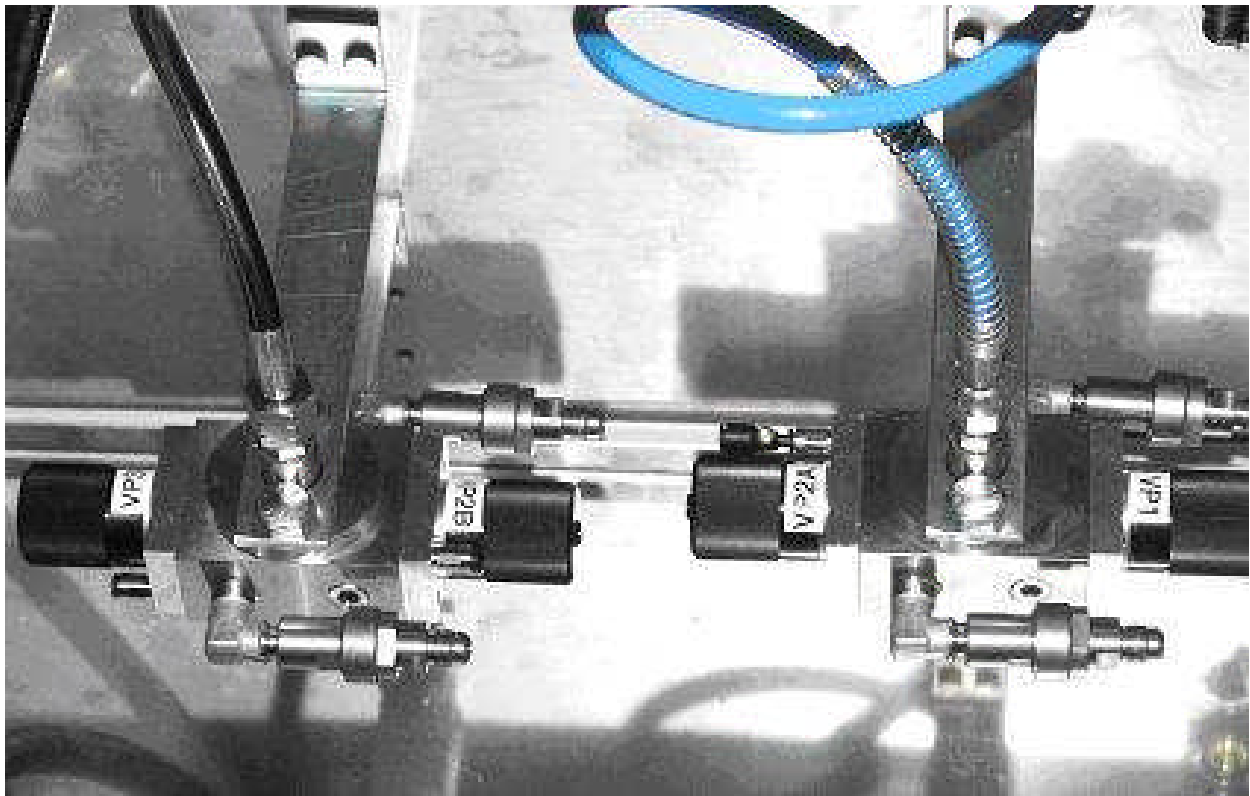
R2 (F 1/4 BSP) : air hose

D (F 1/4 BSP) : mixed fluid hose

AW : supply of the auto-wash pneumatic push-button (cord grip, polyamide hose 4X6)



Some Airmix® in line filters are mounted on the base and catalyst color changers.



In the standard version, # 6 screens come with filters. They must be adapted to the material to be mixed and changed if necessary (refer to Spare parts).

Hoses with fittings : fluid hoses on the Airmix® filters = male 1/2 JIC.



Assemble filters at the outlet of the BASE and CATA pumps.

Assemble pressure regulators at the outlet of the BASE and CATA pumps.

➔ Before connecting the CYCLOMIX™ MULTI, be certain the mains voltage is the same than the one of the machine (230 V).

If no, open the door of the bay and switch over the supply switch (ind.8) (230V → 115V).

Unscrew all regulators before supplying air to the installation.

Shut off the test valves (TA & TB).

6. OPERATING

■ DRIVING FROM THE MACHINE

SCREEN

The different menus and the informations relating to the machine are displayed on the screen.

➔ **Read carefully the messages and follow the instructions to operate the machine.**

To surf from a menu to another, depress the screen.

■ SWITCHING ON THE MACHINE



The placing of the system into operation requires that the BASE, CATALYST and SOLVENT drums are full enough to ensure the production.

Connect the gun before placing the system into operation.

Supply control bay via the safety isolating switch (single-phase electric supply = 230 V/115V).

Switch on the bay (switch located on the side of the bay).

Supply air to the material part (index « R1 » minimum 4 bars / 58 psi), then connect the index R3 of the material part to the index R3 of the CYCLOMIX™ MULTI control bay.

The supply pressure is read on the gauge located on the front part of the bay (index « J »).

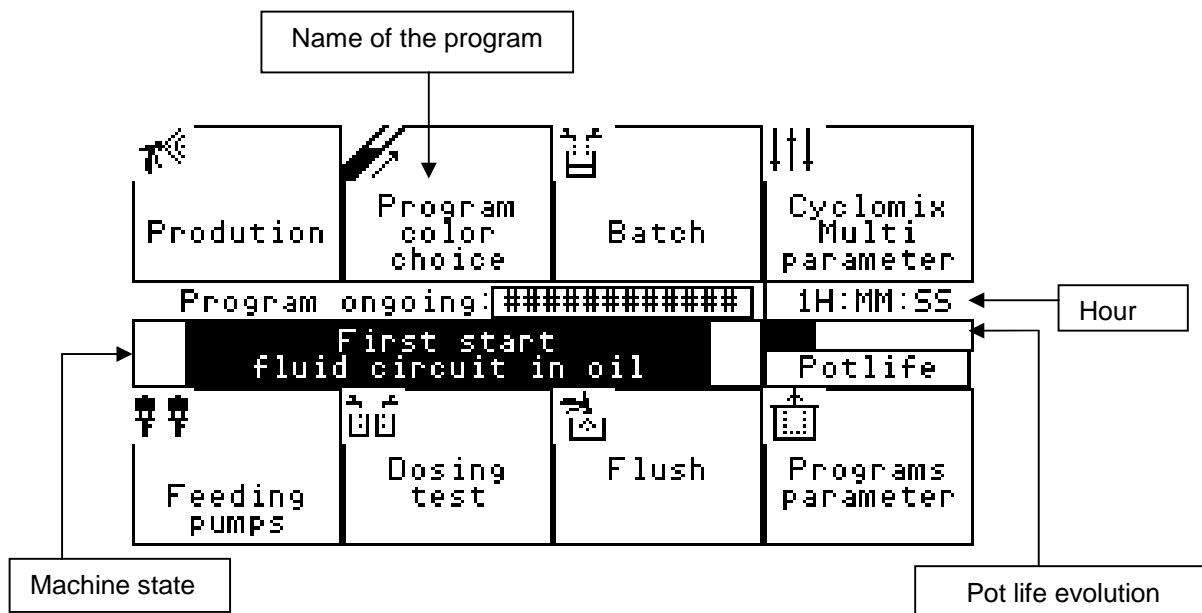
Supply air to the pumps' air regulators (BASE, CATALYST, SOLVENT).

When switching on the bay, a menu is displaced on the screen.

Nota : Parameters have been programmed in the factory before the delivery of the machine. You must adapt the parameters to the use. They must be modified by an authorized person (refer to list of parameters).

7. FIRST SWITCHING ON

STANDARD MENU



Production	Enables to make a priming then produce according to the parameters defined
Program choice	Enables to choose a program to produce
Batch	Enables to deliver a quantity of mixed material to define via TA & TB
Cyclomix parameters	Enables to enter into the CYCLOMIX™ MULTI parameters
Pump priming	Enables to prime the pumps during the first starting up
Carry out a test	Enables to carry out a mixing ratio test
Flush the cyclomix	Enables to flush the CYCLOMIX™ MULTI with solvent
Programs' parameters	Enables to view, modify or print the parameters of each program as well as the consumptions of materials

Read the messages displayed on the screen and follow the instructions to operate the machine.



Go to " Program choice" each time you start the machine to confirm the shade in progress.

8. FIRST PLACING INTO OPERATION

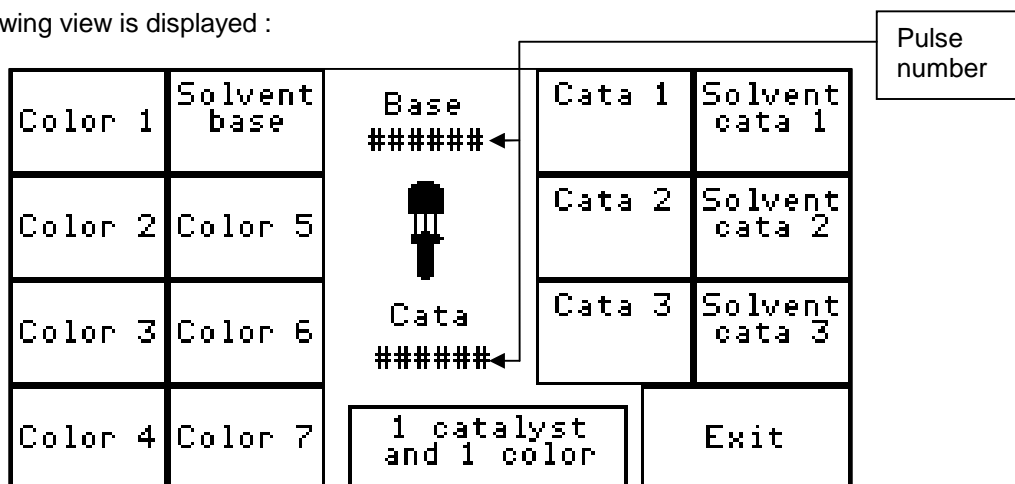


During that first placing into operation, it is compulsory to have all the pumps into solvent as well as the machine to ensure the good quality of the fluid get by the CYCLOMIX™ MULTI.

■ FLUSHING OF THE PUMPS AND OF THE MACHINE INTO SOLVENT

- Carry out the connection indicated at § 6 (INSTALLATION).
- Shut off the 2 test outlets TA and TB and place a receptacle under these ones.
- Start the pumps with solvent and increase the fluid pressure to 1 bar / 14.5 psi.
- On the page of the display main menu, input «Pumps' priming».

The following view is displayed :



Keep the name of the pump pressing and open the corresponding test outlet so that the fluid drains off.

Let flow during 1 minute and check that the activated meter pulse number counts properly.

Nota : The keys corresponding to the colors and to the catalysts which are not present in the installation are inactive.

■ START-UP OF THE MACHINE

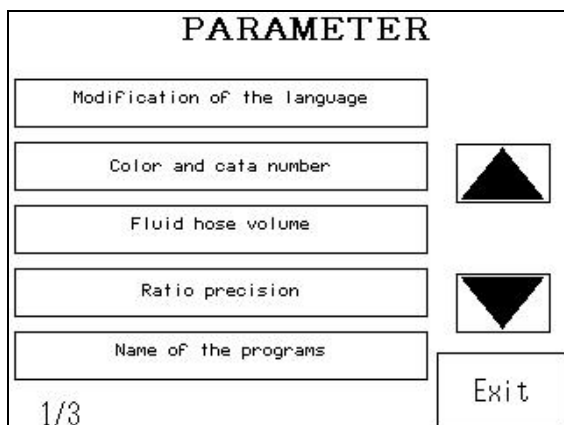
- Start-up the pumps with materials.
- Shut off the test outlets TA and TB.
- Put the fluids at the pressure of production. Do not forget that the pressure of the catalyst must be **higher** than the one of the base (about **5% to 10%**).
- Keep the name of the pump pressing and open the corresponding test outlet gently so that the fluid drains off. Let flow until clean material drains off.
- We advice you to open the solvent pump between each priming to flush the test outlet.
- **Important : before exiting that page, you must end with the solvent pumps to flush properly the test outlets.**

➡ **The CATALYST pressure must always be higher from 5 to 10% than the BASE pressure.**

9. APPLICATION PROGRAMMING

To modify the parameters of the CYCLOMIX™ MULTI, depress «Cyclomix parameter» in the page of the main menu.

The following view is displayed :



The image shows a menu titled "PARAMETER" with five options: "Modification of the language", "Color and data number", "Fluid hose volume", "Ratio precision", and "Name of the programs". To the right of the menu are two arrow keys (up and down) and an "Exit" button. At the bottom left, it shows "1/3".

To shift from a parameter to another, use the arrows ▲ or ▼ .

Select the parameter to alter.

To quit the menu PARAMETER, enter «END».

The parameters are pre-programmed in the factory. They must be modified (by an authorized person) to adapt themselves to the fluids. A "LOGIN" window will be displayed if you depress the parameter if necessary.

The LOGIN key enables to introduce yourself and give access rights via a password to make the modifications possible.

Password by default : Maintenance : A

Person in charge : C

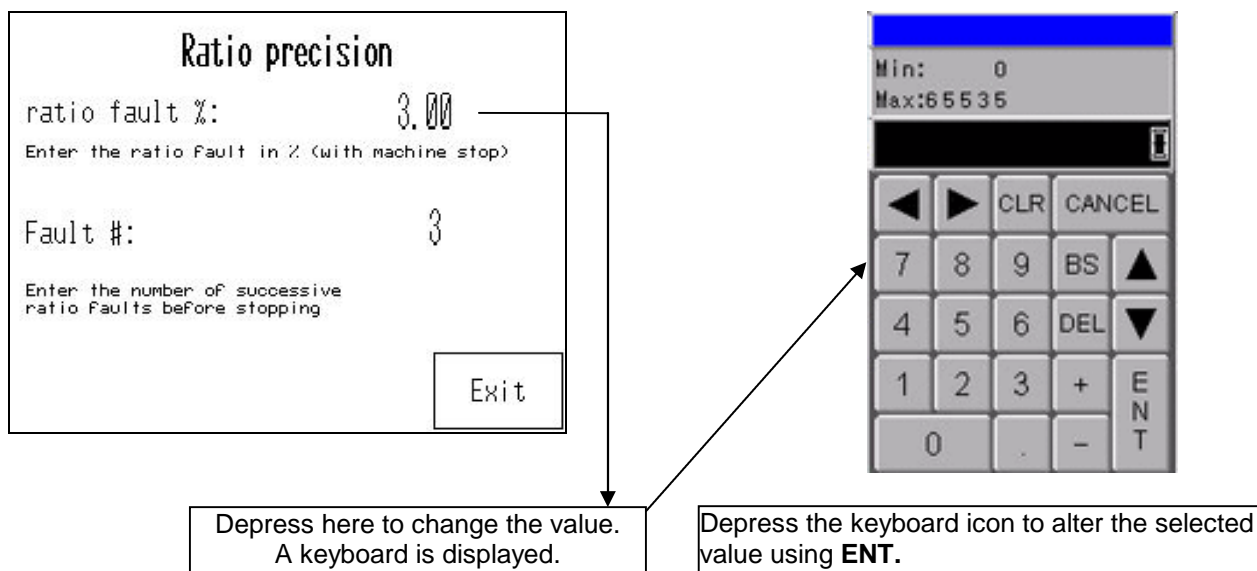
User : Ø

(Letter in capital)

When there are parameters with various datas, select the data to alter (depress it).

To alter a digital value, select the keyboard.

Example :



The image shows two screens. The left screen is titled "Ratio precision" and displays "ratio fault %: 3.00" and "Fault #: 3". Below the "ratio fault %" is the instruction "Enter the ratio Fault in % (with machine stop)". Below the "Fault #:" is the instruction "Enter the number of successive ratio faults before stopping". There is an "Exit" button at the bottom right. The right screen is a numeric keypad with a blue header bar. The header bar shows "Min: 0" and "Max:65535". The keypad has buttons for left and right arrows, CLR, CANCEL, numbers 0-9, BS, DEL, +, -, and ENT. A keyboard icon is visible in the top right corner of the keypad. Two callout boxes with arrows point to the keypad: one points to the "ratio fault %" field and the other points to the ENT key.

Depress here to change the value.
A keyboard is displayed.

Depress the keyboard icon to alter the selected value using ENT.

■ LIST OF THE PARAMETERS

Parameters	Description	Factory adjustment	Your adjustments	Your adjustments	Access
Language	French, English, German, Italian, Spanish	French			C / A
Number of colors and catalysts	1 catalyst / 1 color / 3 colors / 5 colors / 7 colors 2 catalysts / 3 colors / 5 colors 3 catalysts / 3 colors	1 catalyst / 1 color			C / A
Material hose volume	Material hose volume : xxxxx c.c.	150 c.c			C / A
Ratio fault	Ratio % : I xx % ◀ Nb of faults : I xxx ▶	5 % 3			C / A
Name of the programs	This parameter enables to give a name to the programs.	1 2 ↓ 15			All
Solvent flow fault	Base max time I xxxx s Cata max time I xxxx s	300 s 300 s			C / A
Flushing of the test outlets	Value xxxx s	60 s			
Atomizing air	With air / Without air	With air			C / A
Auto-wash	Use of the AUTO-WASH AUTO-WASH OFF	AUTO-WASH OFF			C / A
Automatic	AUTOMATIC use AUTOMATIC OFF	AUTOMATIC OFF			C / A
Flow limiting	Max flow limiting : I xxxxx ◀ Mini flow limiting : I xxxxx ▶	32 767 0			C / A
Panel view configuration	CPU V : ## Set up	Program version Display system			All
Servicing	Flowmeters Outlets				A
Flowmeter Servicing	CATA Flowmeter : I xxxxx ◀ BASE Flowmeter : I xxxxx ▶	0 0			A
Servicing-Outlets	Enables to set up all the automaton outlets	All outlets OFF			A
New password	4 access levels : KREMLIN, person in charge, maintenance, user	User C / A			All
Kremlin	Gun blowing time before dosing Meter time blocked in manual Meter time blocked in auto	300 (= 3 s) 50 (= 0,5 s)			KREM

Access : Ø ⇒ User

C ⇒ Departmental head - Person in charge

A ⇒ Maintenance

■ EXPLANATION OF THE PARAMETERS

<p>*Language :</p>	<p style="text-align: center;">LANGUAGE</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="text-align: center;">Francais</td></tr> <tr style="background-color: #cccccc;"><td style="text-align: center;">English</td></tr> <tr><td style="text-align: center;">Deutsch</td></tr> <tr><td style="text-align: center;">Italiano</td></tr> <tr><td style="text-align: center;">Espanol</td></tr> <tr><td style="text-align: center;">中的</td></tr> <tr><td style="text-align: center;">Polonais</td></tr> <tr><td style="text-align: center;">Finlandais</td></tr> </table> <p style="text-align: right; margin-top: 10px;"><input type="button" value="Exit"/></p>	Francais	English	Deutsch	Italiano	Espanol	中的	Polonais	Finlandais	<p>Selection of the CYCLOMIX™ MULTI language</p>
Francais										
English										
Deutsch										
Italiano										
Espanol										
中的										
Polonais										
Finlandais										
<p>*Number of color and catalyst :</p>	<p style="text-align: center;">Machine parameter</p> <p style="text-align: center;">2 catalysts and 3 colors</p> <p style="text-align: center; font-size: small;">Choose the type of machine.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="text-align: center;">1 catalyst / 1 color</td></tr> <tr><td style="text-align: center;">1 catalyst / 3 colors</td></tr> <tr><td style="text-align: center;">1 catalyst / 5 colors</td></tr> <tr><td style="text-align: center;">1 catalyst / 7 colors</td></tr> <tr style="background-color: #cccccc;"><td style="text-align: center;">2 catalysts / 3 colors</td></tr> <tr><td style="text-align: center;">2 catalysts / 5 colors</td></tr> <tr><td style="text-align: center;">3 catalyst / 3 colors</td></tr> </table> <p style="text-align: right; margin-top: 10px;"><input type="button" value="Exit"/></p>	1 catalyst / 1 color	1 catalyst / 3 colors	1 catalyst / 5 colors	1 catalyst / 7 colors	2 catalysts / 3 colors	2 catalysts / 5 colors	3 catalyst / 3 colors	<p>That parameter sets up the machine with the right number of color changer for base and catalyst.</p>	
1 catalyst / 1 color										
1 catalyst / 3 colors										
1 catalyst / 5 colors										
1 catalyst / 7 colors										
2 catalysts / 3 colors										
2 catalysts / 5 colors										
3 catalyst / 3 colors										
<p>*Material hose volume :</p>	<p style="text-align: center;">Fluid hose volume</p> <p>Hose volume: 120 cc</p> <p>Input the hose volume above between the machine and the gun for the regeneration.</p> <p style="text-align: right; margin-top: 10px;"><input type="button" value="Exit"/></p>	<p>It is the volume of hose mounted between the machine outlet and the gun. That volume value will be stored and called if there is a regeneration of material (the machine will integrate its internal volume).</p> <p><i>Trick : During the first calibration, program the value 30 in order not to consume too much material.</i></p>								
<p>*Ratio fault :</p>	<p style="text-align: center;">Ratio precision</p> <p>ratio fault %: 3.00</p> <p style="font-size: small;">Enter the ratio fault in % (with machine stop)</p> <p>Fault #: 3</p> <p style="font-size: small;">Enter the number of successive ratio faults before stopping</p> <p style="text-align: right; margin-top: 10px;"><input type="button" value="Exit"/></p>	<p><u>Ratio fault (%)</u> : enter the ratio fault in % (1-100%)</p> <p><u>Fault nb</u> : enter the number of successive ratio faults before stopping the CYCLOMIX™ MULTI.</p>								

<u>*Name of the programs :</u>	Name of programs:	Print	8	A1/B2	Print													
	<table border="1"> <tr><td>JAUNE 007124</td><td>A1/B1</td></tr> <tr><td>JJKD</td><td>A2/B1</td></tr> <tr><td>EL998DEEKLA</td><td>A3/B1</td></tr> <tr><td>IJCB678</td><td>A4/B1</td></tr> <tr><td>KABCIPQ7</td><td>A5/B1</td></tr> <tr><td>123451234568</td><td>A6/B1</td></tr> <tr><td>7</td><td>A7/B1</td></tr> </table>	JAUNE 007124	A1/B1	JJKD	A2/B1	EL998DEEKLA	A3/B1	IJCB678	A4/B1	KABCIPQ7	A5/B1	123451234568	A6/B1	7	A7/B1	Next	ROUGE	A2/B2
JAUNE 007124	A1/B1																	
JJKD	A2/B1																	
EL998DEEKLA	A3/B1																	
IJCB678	A4/B1																	
KABCIPQ7	A5/B1																	
123451234568	A6/B1																	
7	A7/B1																	
Exit	11	A3/B2	13	A4/B2														
			AIBCJDKELFMK	A5/B2														
			14	A1/B3														
			VERT PALE	A2/B3														
				A3/B3														

A1 : BASE index B1 : CATA index




Here you can give a name to the programs (maximum 12 characters).

<u>*Solvent fault :</u>	Maximum time of base flushing: 30s	<p>The KREMLIN trick:</p> <p>Measure the flushing maximum time and program that value in the 2 parameters.</p>
	<p>Flushing safety time in case the base flowmeter is blocked</p>	
	Maximum time of cata flushing: 30s	
	<p>Flushing safety time in case the catalyst flowmeter is blocked</p>	
	Exit	

Base max time : time in seconds for calculating a BASE solvent flow fault.

Cata max time : time in seconds for calculating a CATA solvent flow fault.

<u>*Flushing of the test outlets :</u>	Flush outlet	<p>Flushing time of the test outlets after a batch or a mixing ratio test.</p>
	Flushing time: 30s	
	<p>enter the value in seconds for flushing the outlet valves after a batch or a ratio test</p>	
	Exit	

<p><u>*Atomizing air :</u></p>	<p style="text-align: center;">Atomizing air</p> <div style="background-color: black; color: white; text-align: center; padding: 5px;">AIR ON</div> <p style="text-align: center;">Touch screen to modify the parameter</p> <div style="text-align: right; margin-top: 20px;">Exit</div>	<p>Atomizing with or without air.</p> <p> The "without spraying air" mode is not advisable without using an AUTO WASH.</p>
<p><u>*Autowash :</u></p>	<p style="text-align: center;">Auto-wash</p> <div style="border: 1px solid black; padding: 5px; text-align: center;">Auto-wash off</div> <p style="text-align: center;">Touch screen to modify the parameter</p> <p>Inactive time, only with auto-wash (s):</p> <p style="text-align: center; margin-left: 100px;">30</p> <div style="text-align: right; margin-top: 20px;">Exit</div>	<p>Use of the auto-wash.</p> <p>Time of inactivity : it is the maximum authorized time during which the painter does not spray in PRODUCTION mode.</p> <p> That parameter is essential for the spraying without air with AUTO WASH.</p>
<p><u>*Automatic :</u></p>	<p style="text-align: center;">Automatic use</p> <div style="border: 1px solid black; padding: 5px; text-align: center;">Automatic OFF</div> <p style="text-align: center;">Press the screen to modify the parameter</p> <div style="text-align: right; margin-top: 20px;">Exit</div>	<p>Use of a robot or of another automaton to pilot the CYCLOMIX™ MULTI.</p>
<p><u>*Flow limit :</u></p>	<p style="text-align: center;">Flow limit</p> <p>Maximum flow 32000 cc</p> <p>Enter the maximum Flow in cc per automatic gun trigger.</p> <p>Minimum flow 0 cc</p> <p>Enter the minimum Flow in cc per automatic gun trigger.</p> <div style="text-align: right; margin-top: 20px;">Exit</div>	<p> That parameter is only used in automatic mode.</p> <p><u>Maximum limit</u> : maximum value of the quantity of sprayed materials by gun opening.</p> <p><u>Minimum limit</u> : minimum value of the quantity of sprayed materials by gun opening.</p>

*Panel view :		<p>Version : That page enables to check the program version of the CYCLOMIX™ MULTI.</p> <p>« SET UP » : when pressing the 2 keys simultaneously, that page enables to enter in the display system menu (modification of the hour, the date...).</p> <p>To come back, depress « EXECUTION MODE »</p>																																																
*Servicing :	<div style="border: 1px solid black; padding: 5px;"> <p>Catalyst flowmeter OFF </p> <p>Base flowmeter OFF </p> <p style="text-align: center;">Press A or B to view the pulses of the flowmeters.</p> <p style="text-align: center;"> Clear Exit </p> </div>	<div style="border: 1px solid black; padding: 5px;"> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; padding: 2px;">00 OFF</td><td style="border: 1px solid black; padding: 2px;">01 OFF</td><td style="border: 1px solid black; padding: 2px;">02 OFF</td><td style="border: 1px solid black; padding: 2px;">03 OFF</td><td style="border: 1px solid black; padding: 2px;">04 OFF</td><td style="border: 1px solid black; padding: 2px;">05 OFF</td><td style="border: 1px solid black; padding: 2px;">06 OFF</td><td style="border: 1px solid black; padding: 2px;">07 OFF</td> </tr> <tr> <td style="text-align: center;">SA</td><td style="text-align: center;">B2</td><td style="text-align: center;">SB2</td><td style="text-align: center;">VP4</td><td style="text-align: center;">E</td><td style="text-align: center;">F</td><td style="text-align: center;">G</td><td style="text-align: center;">VP5</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px;">08 OFF</td><td style="border: 1px solid black; padding: 2px;">09 OFF</td><td style="border: 1px solid black; padding: 2px;">010 OFF</td><td style="border: 1px solid black; padding: 2px;">011 OFF</td><td style="border: 1px solid black; padding: 2px;">012 OFF</td><td style="border: 1px solid black; padding: 2px;">013 OFF</td><td style="border: 1px solid black; padding: 2px;">014 OFF</td><td style="border: 1px solid black; padding: 2px;">015 OFF</td> </tr> <tr> <td style="text-align: center;">VP6</td><td style="text-align: center;">AIR</td><td style="text-align: center;">A1</td><td style="text-align: center;">A2</td><td style="text-align: center;">A3</td><td colspan="2"></td><td style="text-align: center;">B1</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px;">016 OFF</td><td style="border: 1px solid black; padding: 2px;">017 OFF</td><td colspan="5"></td><td style="border: 1px solid black; padding: 2px;">Exit</td> </tr> <tr> <td style="text-align: center;">SB1</td><td colspan="6"></td><td></td> </tr> </table> </div>	00 OFF	01 OFF	02 OFF	03 OFF	04 OFF	05 OFF	06 OFF	07 OFF	SA	B2	SB2	VP4	E	F	G	VP5	08 OFF	09 OFF	010 OFF	011 OFF	012 OFF	013 OFF	014 OFF	015 OFF	VP6	AIR	A1	A2	A3			B1	016 OFF	017 OFF						Exit	SB1							
00 OFF	01 OFF	02 OFF	03 OFF	04 OFF	05 OFF	06 OFF	07 OFF																																											
SA	B2	SB2	VP4	E	F	G	VP5																																											
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VP6	AIR	A1	A2	A3			B1																																											
016 OFF	017 OFF						Exit																																											
SB1																																																		

⚠ The test outlets must be open.

Flowmeters : that page enables to check flowmeter signals when solvent circuits are open.

Outlets (from S0 to S17) : that page enables to set up manually all the outputs.

⚠ When exiting these pages, all the outputs and flowmeters must be off.

*Kremlin :	<div style="border: 1px solid black; padding: 5px;"> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; padding: 2px;">Atz time in automatic: 1/100s 50 ms</td> <td style="border: 1px solid black; padding: 2px;">Solvent cc 250 p</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px;">Atz time in manual:1/100s 10000 ms</td> <td style="border: 1px solid black; padding: 2px;">Cata cc 200 p</td> </tr> <tr> <td colspan="2" style="border: 1px solid black; padding: 2px;">Base cc 200 p</td> </tr> <tr> <td colspan="2" style="border: 1px solid black; padding: 2px;">time delay for blocked Flowmeter priming volume between Flowmeters and CTM</td> </tr> <tr> <td colspan="2" style="text-align: right; border: 1px solid black; padding: 2px;">Exit</td> </tr> </table> </div>	Atz time in automatic: 1/100s 50 ms	Solvent cc 250 p	Atz time in manual:1/100s 10000 ms	Cata cc 200 p	Base cc 200 p		time delay for blocked Flowmeter priming volume between Flowmeters and CTM		Exit		<p>Air blowing time to the gun before material spraying (no check of the meters during that time) (in millisecond).</p> <p>Please get in touch with KREMLIN REXSON technician for the modification of the other values.</p>
Atz time in automatic: 1/100s 50 ms	Solvent cc 250 p											
Atz time in manual:1/100s 10000 ms	Cata cc 200 p											
Base cc 200 p												
time delay for blocked Flowmeter priming volume between Flowmeters and CTM												
Exit												

■ **PARAMETERS OF THE PROGRAMS**

Depress "Parameters of the programs" in the main menu, the following view is displayed :

Programs parameter		
JAUNE 007124	A1/B1	<div style="text-align: right; margin-bottom: 5px;">▲</div> <div style="text-align: right; margin-bottom: 5px;">▼</div> <div style="text-align: right; border: 1px solid black; padding: 2px;">Exit</div>
JJKD	A2/B1	
EL998DEEKLA	A3/B1	
IJCB678	A4/B1	
KABCIPQ7	A5/B1	
123451234568	A6/B1	
1/3		

Choose the program to alter. That menu enables to modify the parameters of each program. You can also calibrate the flowmeters according to the fluids and view or print the consumptions of the fluids.

Each page of parameter will be as follows :

Name of
the
program

<p>→ JAUNE 007124</p> <p>PRIM VOLUME (cc) 500</p> <p>PotLife (s): 400</p> <p>POTLIFE NB 3</p> <p>% DATA 25</p> <p>DOSING ALARM 0.80</p> <p>DRY EXTRACT (Z) 55</p> <p>CATA FLUSHING 3</p>	<p>BASE FLUSHING VOLUME</p> <div style="border: 1px solid black; padding: 5px; text-align: center; margin: 5px;">Solvent OFF</div> <p style="text-align: center; margin: 5px;">0 /p</p> <p style="text-align: center; margin: 5px;">400 ← <u>Value stored (pulse number)</u></p> <p style="text-align: center; font-size: small; margin: 5px;">To modify a value, input on it to select</p> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="border: 1px solid black; padding: 5px;">Print</div> <div style="border: 1px solid black; padding: 5px;">Exit</div> </div>
---	---

Parameters	Description	Factory adjustments	Your adjustments																	
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15			
MT volume	Volume to program (in cc) when priming carried out (refer to § manipulation "Set up the priming")	20 000 cc																		
Pot life (s)	Value of the material life time in seconds (from 400 to 32 000 s)	900 s																		
Pot life NB	Number of regeneration at the end of pot life (priming inclusive) before the machine begins flushing	3																		
cata %	Catalyst mixing ratio	10 %																		
Mixing alarm	Tolerated variation of the mixing ratio (in production mode) : ± XX,X % The alarm dose not stop the machine, the red LED switches on.	0,8 %																		
Dry extract (%)	Dry extracts value percentage of the program base	55 %																		
Cata flushing	Number of times the material hose volume to flush the machine catalyst side	3																		
Base flushing volume	Number of pulses necessary to flush the program base	5000 pulses																		
Print	Enables to pring the parameters of the program displayed																			

■ SET UP THE PRIMING

Once the parameters (machine and program) set up, you have to set up properly the volume of priming for each program. It is important to carry out as follows :

Program choice

Current Program:

New program:

JAUNE 007124	A1/B1	▲ ▼
JJKD	A2/B1	
EL998DEEKLA	A3/B1	
IJCB678	A4/B1	
KABCIPQ7	A5/B1	

1/3

①

Program ongoing: #####			1H:MM:SS
First start fluid circuit in oil			Potlife

③

REGENERATION

Point the gun into a waste container and press the gun trigger until the machine stops

JAUNE 007124 25.000

Ratio : 25.000 %

0 cc → 320 cc

Note down the volume in progress and depress STOP when the paint can be applied

④

Current Program: JAUNE 007124			14:57:22
Filled with paint			Potlife

⑤

Volume in progress

Volume to reach : 20 000 c.c (factory adjustment)

Enter the volume noted

JAUNE 007124	BASE FLUSHING VOLUME	
PRIM VOLUME (cc)	500	<input type="button" value="Solvent OFF"/>
PotLife (s):	400	0 /p
POTLIFE NB	3	400
% CATA	25	
DOSING ALARM	0.80	To modify a value, input on it to select
DRY EXTRACT (<>)	55	
CATA FLUSHING	3	<input type="button" value="Print"/> <input type="button" value="Exit"/>

■ BASE FLUSHING PARAMETER

JAUNE 007124		BASE FLUSHING VOLUME	
PRIM VOLUME (cc)	500	Solvent OFF	
PotLife (s):	400	0 /p	
POTLIFE NB	3	400	← Value to enter
% DATA	25	To modify a value, input on it to select	
DOSING ALARM	0.80	Print	Exit
DRY EXTRACT (%)	55		
CATA FLUSHING	3		

When the page of the program parameter is displayed and that you have carried out a flushing, it is important to set up the base flushing volume.

Depress «Solvent OFF» and open the gun. The machine opens the solvent circuit. When the solvent drains off clean, depress "Solvent ON" : the machine closes the solvent circuit.

Note down the "xxxx/p" value in the frame below.

You can also enter that value via the selection of the frame.

After that stage, you can pass into "PRODUCTION" mode.

Before passing into production mode, it is important to calibrate the BASE FLUSHING parameters.

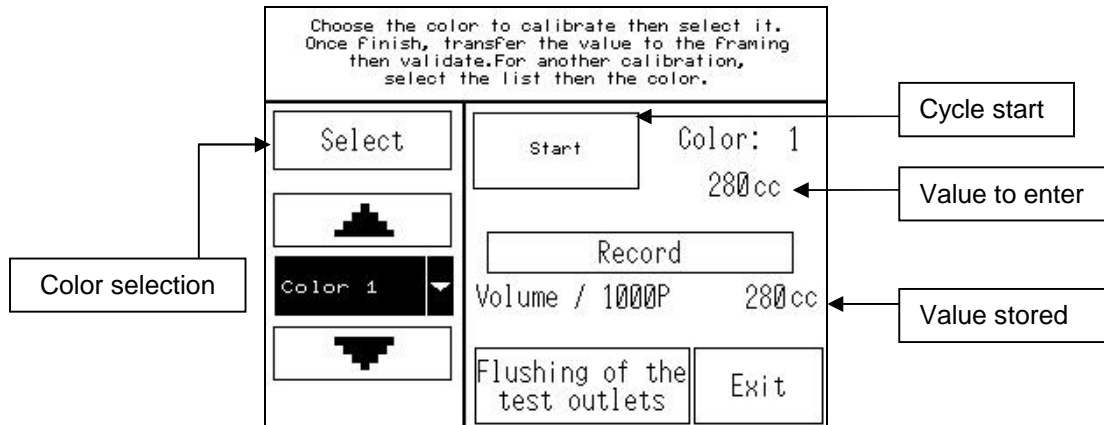


**Never quit that page until reading
« BASE FLUSHING VOLUME »: OFF.**

■ BASE AND CATALYST CALIBRATION PARAMETER

In the menu "Programs' parameter", the fluids' calibration parameters are available.

- CALIBRATION OF THE COLORS :



To select the color, please use the arrows (Up / Down).

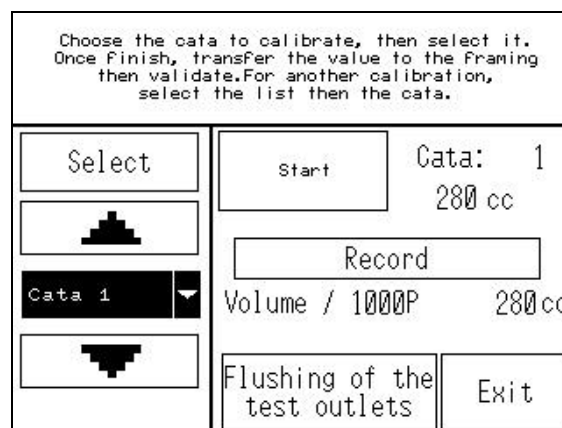
The calibration cycle enables the machine to calculate the exact volumes of fluids' consumptions as well as the volumes during the mixing, batch tests or during the production.

When the cycle begins, the machine counts 1000 pulses of the base flowmeter with the color selected. The fluid flows via the test outlet TA.

Once the machine stopped, transfer the volume noted down in the frame "Value to enter" then depress "Store".

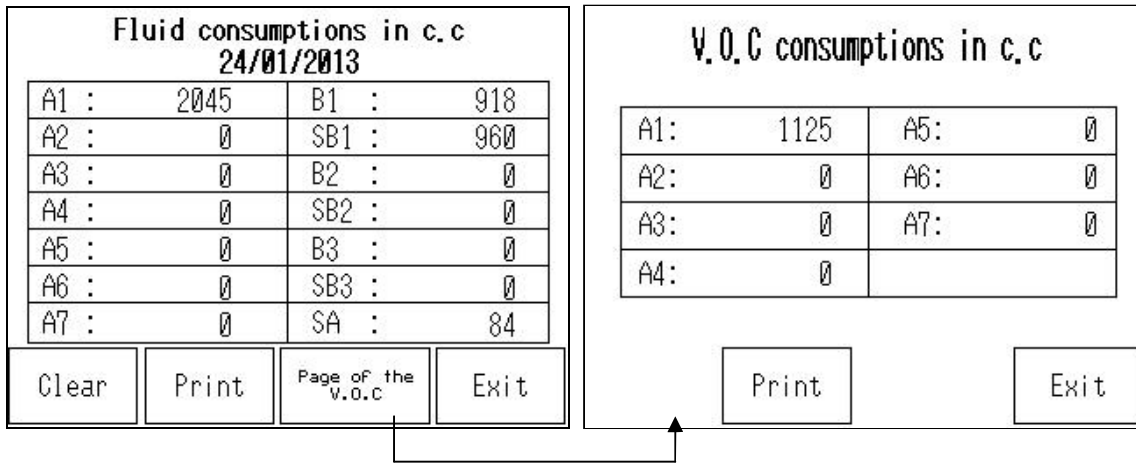
To calibrate other color, it is necessary to flush the test outlet : depress "test outlet flushing". The machine opens the base solvent circuit and flushes the test outlet. When the fluid is clean, depress for the second time to make the machine close the solvent circuit.

- CALIBRATION OF THE CATALYSTS :



Same principle than for colors except that the fluids flow from the test outlet TB.

■ CONSUMPTION OF THE FLUIDS

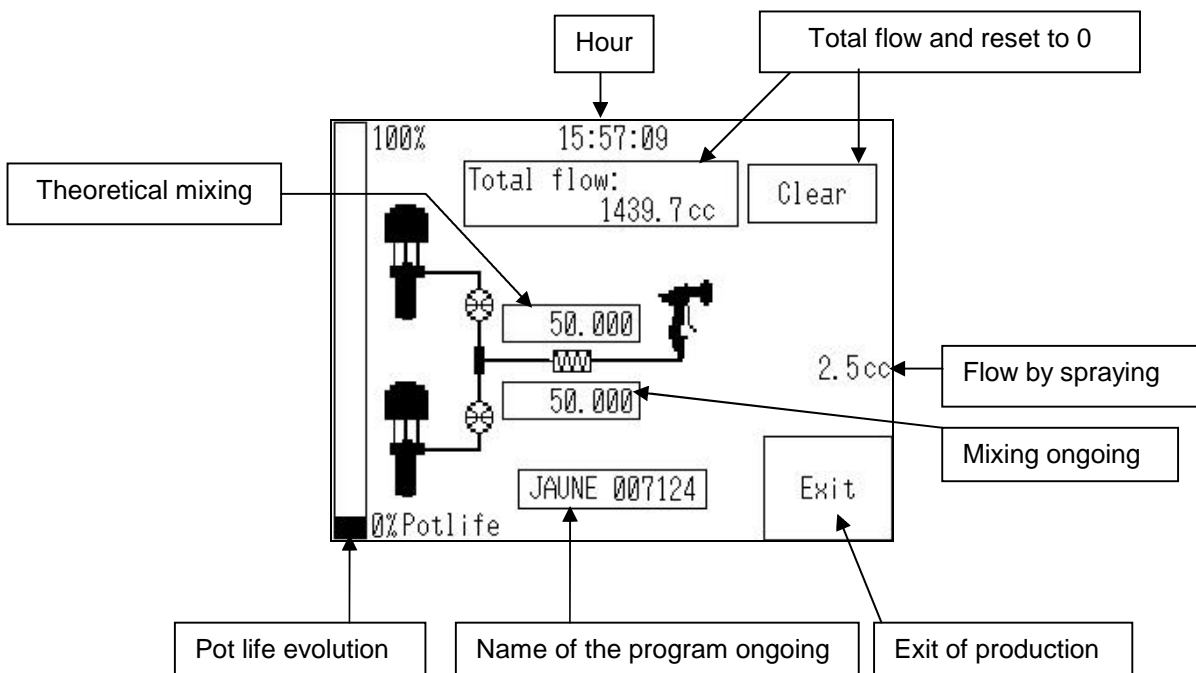


These pages enable to follow through the consumptions of each material. You can save a report of the consumptions and of the VOC connecting an USB key to the port at the front part of the display unit.

You can reset to 0 the consumptions depressing "CLEAR", the VOC will be reset to 0.

10. MANUAL PRODUCTION

Once carried out a priming, depress the "Go to production" key, the following view is displayed :



11. CHANGE OF PROGRAM

Once carried out a production with a program, to change a program :

- exit from production, if you are in production mode,
- select "Choice of the program" in the main menu.

Program choice	
Current Program:	JAUNE 007124
New program:	JAUNE 007124
JAUNE 007124 A1/B1	▲ ▼ Exit
JJKD A2/B1	
EL998DEEKLA A3/B1	
IJCB678 A4/B1	
KABCIPQ7 A5/B1 1/3	

Use the arrows to go to the next pages. Select your program then depress "Back" to exit.

If the new program has the same catalyst than the program in progress , the machine will carry out a production flushing to flush only the base side.

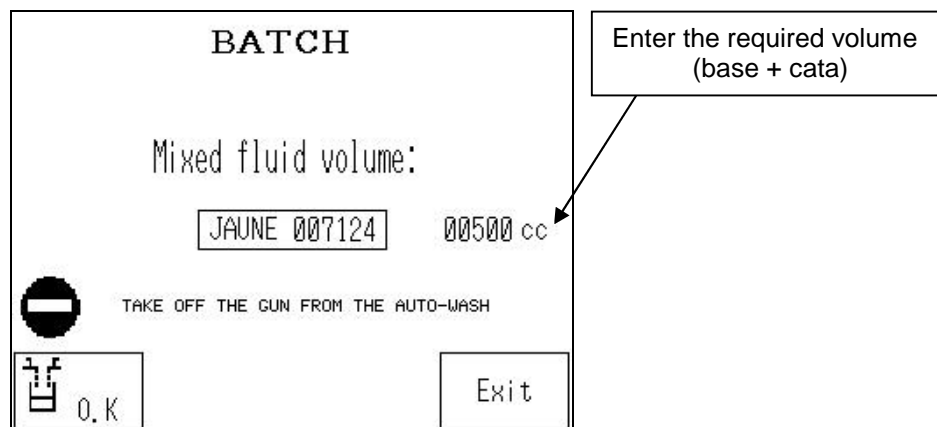
On the other hand, if the new program has a catalyst different from the one of the program in progress, the machine will carry out a week end flushing to prevent fluids that are not compatible between them from crossing.

Once carried out the flushing, the machine comes back in the main menu.
If you ask for "go to production", a priming starts up.



Each time you start the machine, you must choose the program.

12. BATCH



That function is used in case of rectification to carry out.

In that mode, the CYCLOMIX™ MULTI will deliver, via the test outlets TA & TB, the required fluid volume at the ratio that has been programmed for the program in progress.

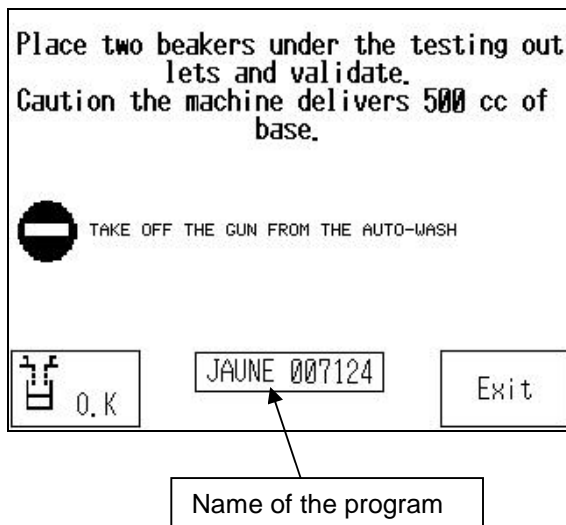
- ➔ Wear protective glasses to protect the operator from possible discharges during the handling of the CYCLOMIX™ MULTI machine test outlets.
- ➔ During that stage, the gun must be shut off.



Caution : if the installation is in "AUTOWASH" configuration, you must remove the gun from the AUTOWASH support.

That stage is followed by a flushing of the test outlets. To start up again in production, you must carry out a gun priming.

13. MIXING TEST



That function is used to check the ratio of the CYCLOMIX™ MULTI.

In that mode, the CYCLOMIX™ MULTI will deliver, via the test outlets TA & TB, the mixing ratio over the base volume of 500cc for the program in progress.

- Wear protective glasses to protect the operator from possible discharges during the handling of the CYCLOMIX™ MULTI machine test outlets.
- During that stage, the gun must be shut off.



Caution : if the installation is in "AUTOWASH" configuration, you must remove the gun from the AUTOWASH support.

That stage is followed by a flushing of the test outlets. To start up again in production, you must carry out a gun priming.

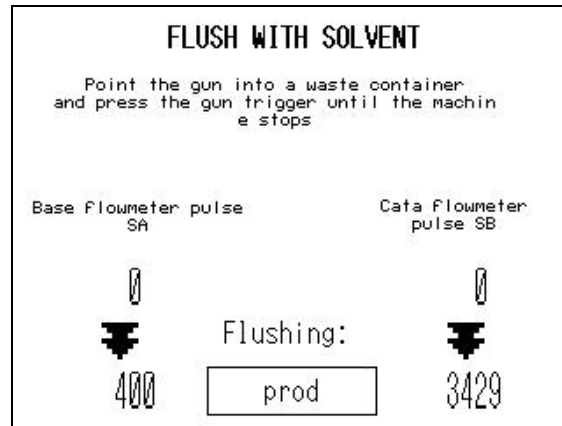
14. WEEKEND FLUSHING OR PRODUCTION FLUSHING

During the stopping of the machine, you must carry out a flushing.

Input "Flush the cyclomix" of the main menu. Select the kind of flushing (production flushing / weekend flushing), then point the gun into a receptacle and press the gun trigger until the machine stops.

Nota : During the flushing, you can take off the gun aircap to increase the solvent output (max.7 l/min). Make sure you check the pressure and decrease it if it is high.

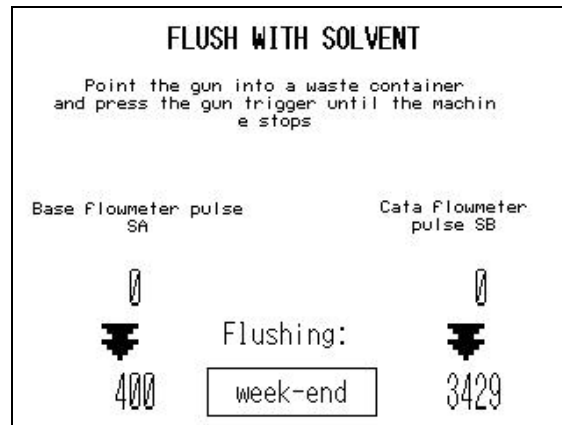
For a PRODUCTION flushing :



The CYCLOMIX™ MULTI will flush all the BASE circuit from the color changer to the gun (meter, automatic valves, mixer, connecting hose) with the volume of solvent base programmed in the BASE flushing parameter.

The CATALYST circuit is not flushed. After that flushing, the CYCLOMIX™ MULTI starts up again in the main menu. Then, you can start in production with another program which has the same catalyst. If you select a program with a different catalyst, the machine will carry out a "week- end" flushing then will come back in the main menu.

For a weekend flushing :



The machine carries out a PRODUCTION flushing, then flushes the CATALYST circuit : meter, automatic valves, mixer, hose and gun with catalyst solvent. You can then switch off the machine or start in production with any program.

Leave the machine full of solvent. Shut off the electric supply (switch on the right side) and the air supply.

In automatic mode, the robot bay controls the kind of flushing and the stopping of the CYCLOMIX™ MULTI.

If a power outage occurs, you can carry out a flushing of the machine by pressing the black-press button "EMERGENCY FLUSHING" located on the part (pneumatic control, index "K"). Only the base side of the machine will be flushed with its solvent.

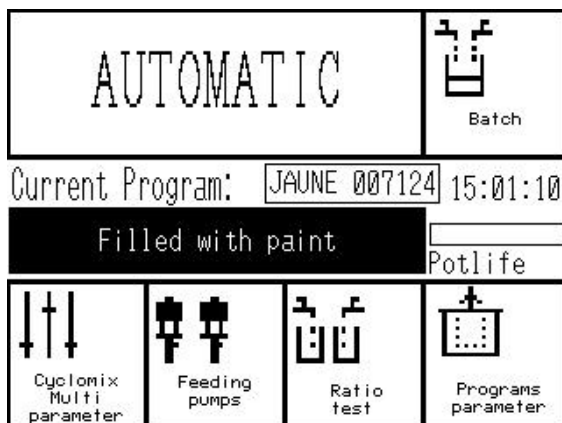
15. OTHER MENUS

They are selected from the machine parameters' programming.

If the user has chosen an other menu than the standard menu, as AUTOMATIC or AUTO-WASH menu, a different menu will be displayed on the screen during the switching on of the machine.

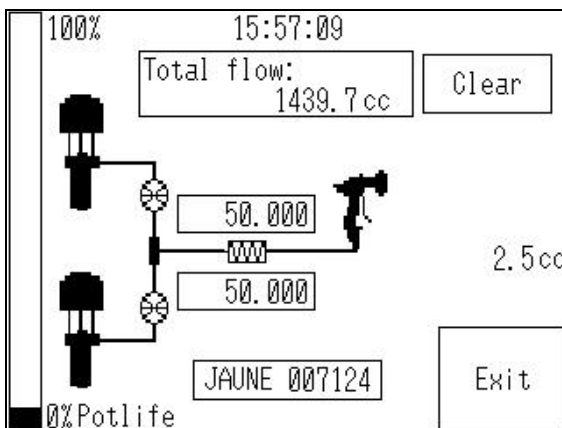
■ AUTOMATIC MENU

For the piloting of the machine via a robot :



The START UP, PROGRAM CHOICE and FLUSHING functions are controlled by the bay of the robot. The interface unit is carried out via the terminals inside the box (see electric diagram - folio 4).

When the robot gives the order to go to production, the following page is displayed :



ROBOT INTERFACE UNIT

Automaton inlets and outlets - CYCLOMIX™ MULTI	
IN 3	Color choice validation
IN 6	Go to production
IN 7	Bit 4 for program choice
IN 8	Start-up weekend flushing
IN 9	Start-up production flushing
IN 11	Bit 3 for program
IN 12	Bit 2 for program choice
IN 13	Bit 1 for program choice
Outlets' coding of the CYCLOMIX™ MULTI state	
OUT 4 = 1	Fault (Red led)
OUT 5 = 1	Operating (Orange led)
OUT 6 = 1	Production (Green led)
OUT 5 + OUT 6 = 1	Waiting
OUT 4 + OUT 5 + OUT 6 = 1	Production and flow alarm
OUT 4 + OUT 5 + OUT 6 = 0	Programming
OUT 4 + OUT 5 = 1	Mixing alarm

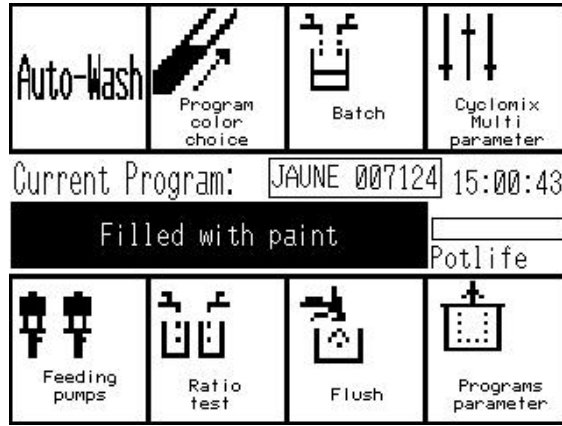
Inlets' coding for the program choice				
bit 4 IN7 of the automaton	bit 3 IN11 of the automaton	bit 2 IN12 of the automaton	bit 1 IN13 of the automaton	
0	0	0	0	
0	0	0	1	program 1
0	0	1	0	program 2
0	0	1	1	program 3
0	1	0	0	program 4
0	1	0	1	program 5
0	1	1	0	program 6
0	1	1	1	program 7
1	0	0	0	program 8
1	0	0	1	program 9
1	0	1	0	program 10
1	0	1	1	program 11
1	1	0	0	program 12
1	1	0	1	program 13
1	1	1	0	program 14
1	1	1	1	program 15

TIMEMETER CHART

I/O automaton of the Cyclomix multi	waiting	program choice 5	flushing	waiting	priming	prod & spraying	prod outlet waiting	program choice 2	flushing	waiting	priming	prod & spraying	prod outlet waiting	for a Week-end flushing	for a prod flushing	fault
IN 13	x	1	x	x	x	x	x	0	x	x	x	x	x	x	x	x
IN 12	x	0	x	x	x	x	x	1	x	x	x	x	x	x	x	x
IN 11	x	1	x	x	x	x	x	0	x	x	x	x	x	x	x	x
IN 7	x	0	x	x	x	x	x	0	x	x	x	x	x	x	x	x
IN 3	x	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
IN 6	0	0	0	0	1	1	0	0	0	0	1	1	0	0	0	0
IN 8	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
IN 9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
IN 10	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
out 6	1	1	0	1	1	1	1	1	0	1	1	1	1	0	0	0
out 5	1	1	1	1	1	0	1	1	1	1	1	0	1	1	1	0
out 4	0	0	0	0	0	1/0	0	0	0	0	0	1/0	0	0	0	1
out 7	0	0	1	0	1	0	0	0	1	0	1	0	0	1	1	0

x état sans conséquence
1/0 état obligatoire pour les entrées et résultant pour les sorties

■ AUTO-WASH MENU



The auto wash located on the booth has a "PRODUCTION : O - I" selector and a system to hang up the gun.

During a stoppage :

Turn the PRODUCTION selector on "O".

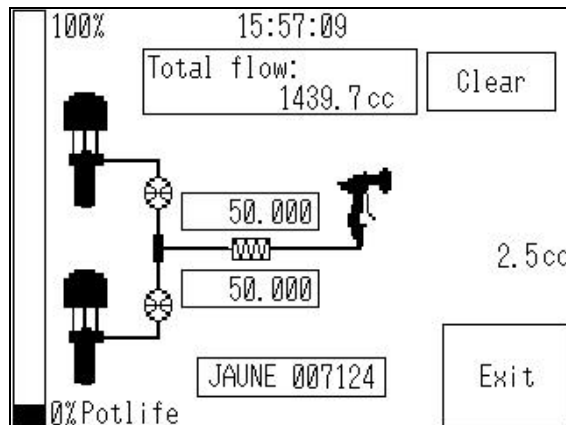
Depressurize the hose by triggering the gun.

Hand up the gun on the support (trigger open).

When the time corresponding to the pot-life passes or during a flush or a priming, the fluid will flow.

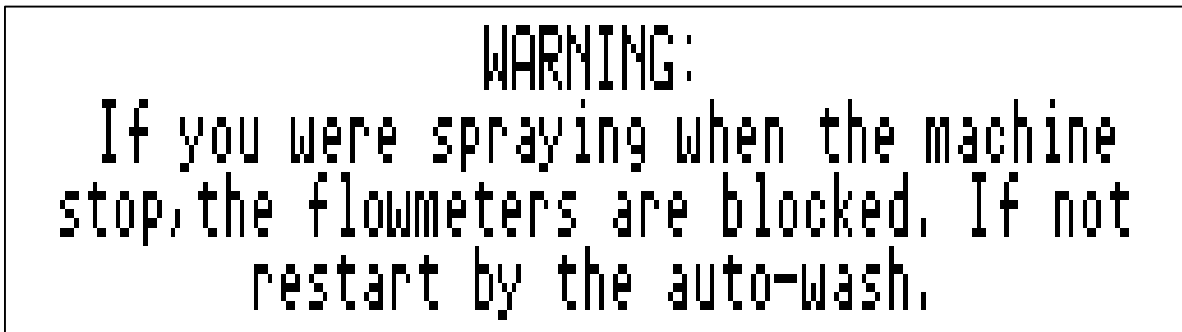
To start, the user gets back his gun and turns the PRODUCTION selector on "I".

PRODUCTION WITH AUTO-WASH



SAFETY DEVICE FOR THE SPRAYING WITHOUT AIR WITH AUTO WASH

If the time of inactivity of the machine is reached, the following page is displayed :



The temporization is reset to 0 at each flowmeter pulse.

If the temporization has gone by while the painter is spraying, the BASE flowmeter is blocked.

Otherwise, to start again in production, turn the peummatic knob of the AUTO WASH on 0, then on I.

16. MAINTENANCE

**Guards (air motor cover, coupling shields, housings,...) have been designed for safe use of the equipment.
The manufacturer will not be held responsible for bodily injury or failure and / or damage to property due to removal or partial removal of the guards.**

**Never leave the mixed material in the machine.
Properly adjust the Pot life parameter to avoid hardening. Carry out a flushing when the work is over.**

Change regularly the mixer assembly to avoid a loss of pressure into the circuit of the mixed fluid.
Clean the screens of the filters and change them if necessary.

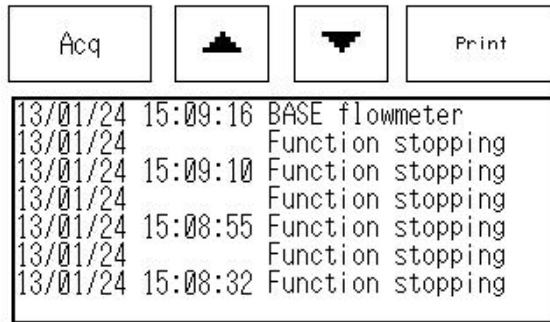
For any intervention on the machine :

- Flush the circuits,
- Shut off the compressed air,
- Depressurize the hoses by triggering the gun,
- Shut off the electric supply.

17. TROUBLESHOOTING

If a problem occurs during the operating of the machine, some alarm or fault messages will be displayed on the screen of the machine.

ALARM



The list of the alarms is displayed on the screen with the day and the hour.

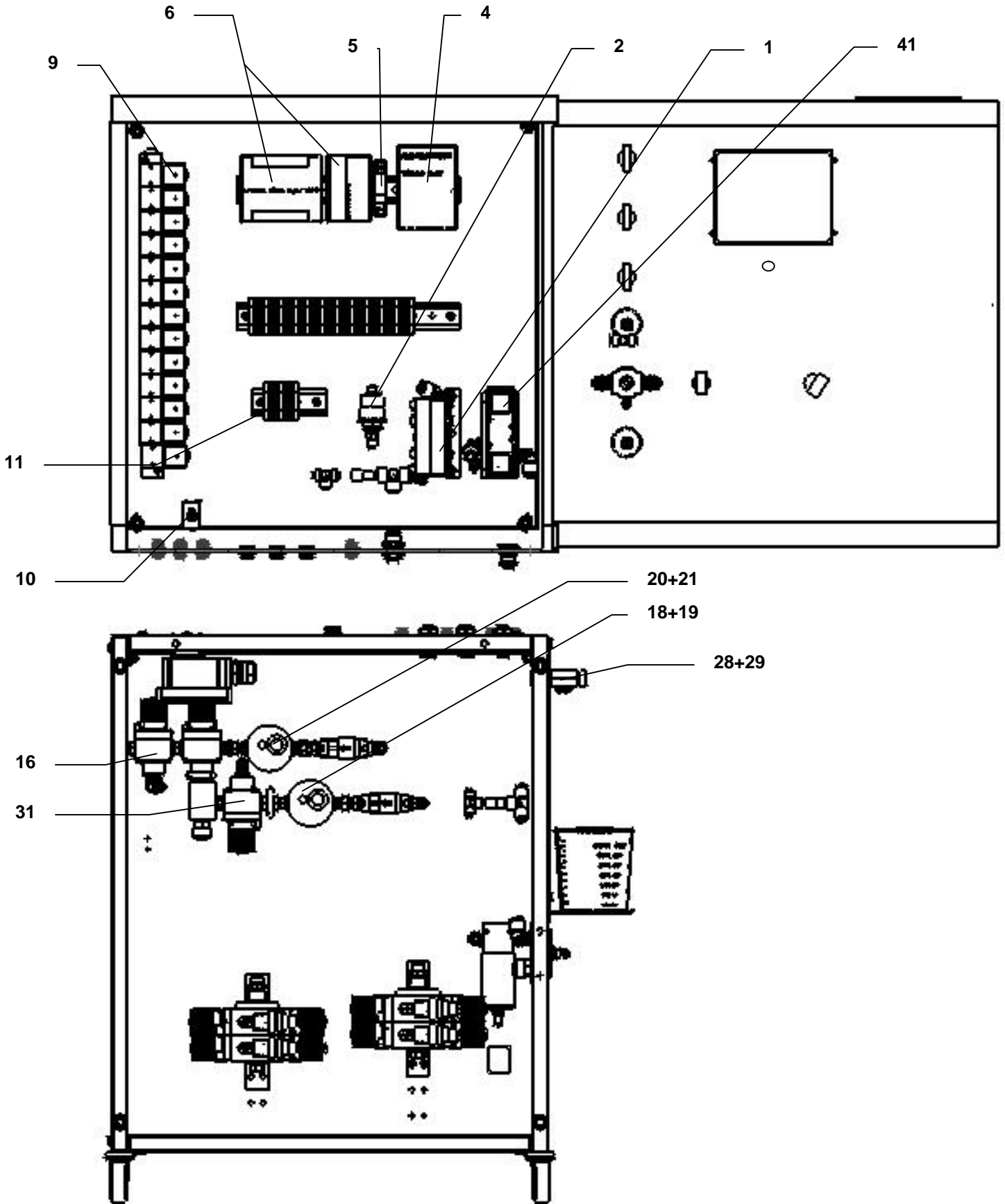
Input "Acquit" to acquit each alarm.

You can save the alarms.

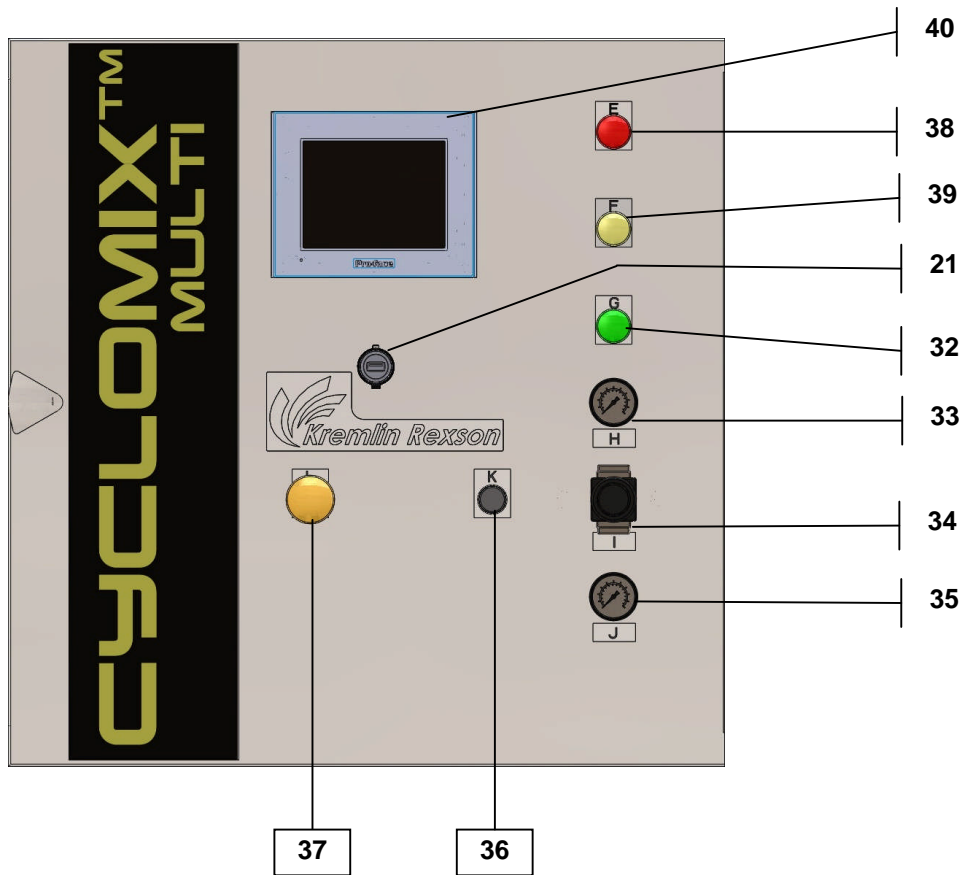
PROBLEMS	CAUSES	SOLUTIONS
CATA flowmeter Or BASE flowmeter	Flowmeter blocked or pressures incorrectly balanced	Check the fluid circuit (pump, valve) Clean or change flowmeters
	Time between air opening and fluid opening upper than 3s	Trigger the gun quickler
Mixing ratio	Flow improperly adjusted or pressures incorrectly balanced	
Function stopping	Yellow push-button engaged	Unlock
Injection piloted valve	VP6 valve leaking	Remove VP6 and check the correct operating. Change the valve if necessary.

To check the operating of the machine when using it, you can call up the SERVICING parameter and watch the flow of the flowmeters and the state of the automaton outlets (access authorized only to the MAINTENANCE)

S0	EV 1	Base SOLVENT piloted valve	The 3 outlets S4, S5 S6 enable a coding of the faults (refer to § 11 - Indications given by the LED)
S1	EV 2	CATA 2 or BASE 6 piloted valve	
S2	EV 3	CATA 2 or BASE 7 SOLVENT piloted valve	
S3	EV 4	TEST CATA TEST piloted valve	
S4	Red LED	LED + robot info	
S5	Orange LED	LED + robot info	
S6	Green LED	LED + robot info	
S7	EV 5	BASE TEST piloted valve	
S8	EV 6	INJECTION piloted valve	
S9	EV 7	SPRAYING AIR piloted valve	
S10	EV8	BASE 1	
S11	EV9	BASE 2	
S12	EV10	BASE 3	
S13	EV11	BASE 4 or SOLVENT CATA 3	
S14	EV12	BASE 5 or CATA 3	
S15	EV13	CATA 1	
S16	EV14	SOLVENT CATA 1	
S17	Terminal 22	Gun opening control	



Door open at 180° C / 356° F



ELECTRIC

FAULTS	CHECKS
The machine does not switch on	Check the mains supply wiring at the isolating switch level (42). Check if a green diode is switched on the 24V supply (4) No : change the supply (4)
When switching on, no LED is operating (32, 38, 39)	Check the operating via the SERVICING parameter. If they do not switch on : change the concerned LED.
The display unit (40) does not switch on	Check the electric wiring (bad contact or other) No : change the display unit
When you push on the push-button "stopping of function" (37), nothing occurs	Check the proper operating of the push-button. Check that the IN3 diode of the automaton is switched on.

FLUID

FAULTS	CHECKS
During the priming, no fluid flows out from the gun.	Check if the machine is supplied with air (reading of the pressure - 35) (minimum 4 bar / 58 psi) Check that the pumps are pressurized.
During the priming, the measure displayed does not reach the instruction.	Check the pressure of the catalyst and of the base.
When we are in the page of the main menu, if fluid flows when the gun is open, there is a valve leak.	Detection of the valve : Open the box, watch automaton (6), open the gun and watch if IN0 or IN1 flashes on.
If IN1 flashes on : valve leak - BASE side	Flush the machine with solvent (weekend flushing) Remove the valves.
If IN0 flashes on : valve leak - CATA side	Flush the machine with solvent (weekend flushing) Remove the valves.
During the production, there is a leak at the test outlets level.	If the fluid flows from the test outlet TA (28) : change the valve (31). If the fluid flows from the test outlet TB (29) : change the valve (16).
One of the meters does not count	Open the box, operate the gun and watch if IN0 or IN1 (automaton inlets) flashes on (6).
If IN1 does not flash on : the BASE flowmeter is in fault (18 & 19)	Test if it is the sensor or the mechanical part : - Unscrew the sensor. Bring the tip of a mechanical part closer and move it away. If the sensor works properly, the IN1 diode must flash on : yes, change the mechanical part; no, change the sensor. - Check the ZENER barrier wiring.
If IN0 does not flash on : the CATA flowmeter is in fault (20 & 21)	Test if it is the sensor or the mechanical part. - Unscrew the sensor. Bring the tip of a mechanical part closer then away. If the sensor works properly, the IN0 must flash on: yes, change the mechanical part; no, change the sensor. - Check the ZENER barrier wiring.
There is a problem of flow at the gun outlet.	Change the mixer.
The fluid valves are not working.	Check the electrovalves and actuate the manual opening push button to check if there are supplied with air. Check if when the automaton pilots an outlet, the associated electrovalve is switched over (9).
In production, the machine indicates : cata flowmeter OUT OF ORDER	Remove it and check it.
In production, the machine indicates : base flowmeter OUT OF ORDER	Remove it and check it.
In production, the machine indicates : base flowmeter OUT OF ORDER, but the base meter is not blocked	Check the flow switch (IN 5)
The pot life is over but the machine does not flush.	Check the flow switch (IN 5)

AUTOMATIC

FAULTS	CHECKS
You cannot switch to production or to priming or to flushing.	Check the automatic parameter. Check the electric wiring.

AUTO-WASH

FAULTS	CHECKS
You cannot switch to production with the auto-wash	Check the auto-wash parameter. Check if air is coming on IN at the outlet plate level. Check that the INX diode of the automaton lights on when you push the button. If no, check the air pressure or change the pressure switch (2)

AUTOMATON

FAULTS	CHECKS
The automaton is in fault mode (fault diode on) or is not in mode run (run diode off)	Call KREMLIN.

PNEUMATIC

FAULTS	CHECKS
The gauge (35) is blocked to 0 bar / psi.	Check the general pressure. Change it if necessary.
The gauge (33) is blocked to 0 bar / psi.	Check the general pressure and screw the regulator (34). Check that you are in production Check the spraying air parameter Check the distributor (41) Check the piloting electrovalve via its manual control (9)
In production, the total is no longer working.	Check the flowmeter (1). When it's engaging, the IN5 diode of the automaton (6) must be switched on.
During a TEST or BATCH program, nothing flows from the test outlets TA or TB (29 & 28)	Check if the test valves are open. Check that the hoses are not blocked up. Check the valves (16 & 31)

ELECTRO MODE

FAULTS	CHECKS
The electronic supply box (STD 9 power supply unit) does not switch on in production or if it does not switch off when you are waiting	Change the relay (5)

18. DISASSEMBLY - REASSEMBLY

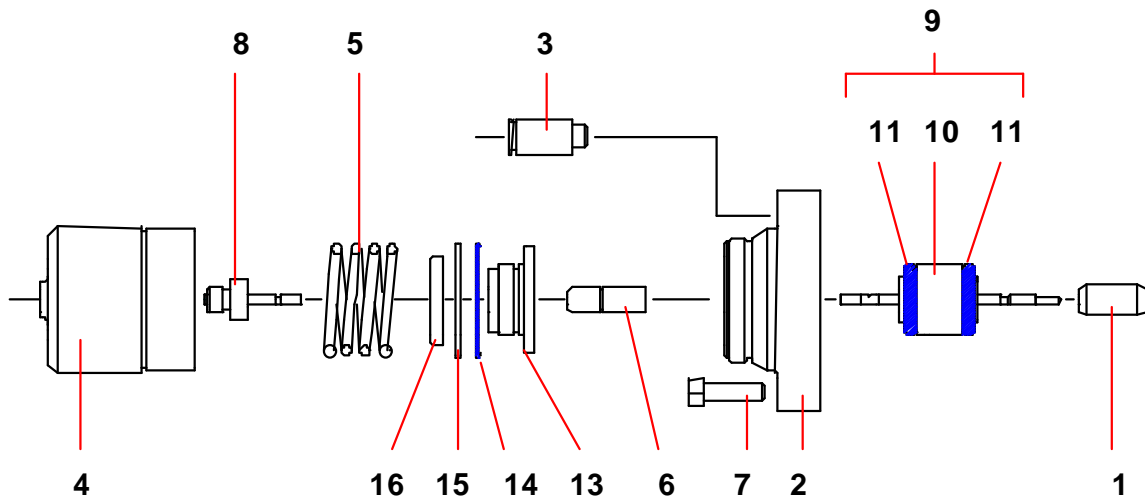
Stop the machine after the flushing. Depressurize the circuits.

The machine is manufactured under the ATEX agreement and can not be modified. KREMLIN REXSON will not be held responsible for any failure to comply with that instruction.

■ MIXER

Unscrew the mixer assembly and replace it with a new one.

■ PILOTED VALVES - 200 BAR / 2900.6 PSI (FLUID VALVES AND TEST VALVES)



CARTRIDGE OF A FLUID VALVE (IND. 9)

Unscrew the 3 screws (7).

Remove the valve from the module body.

Unscrew the needle (1) and the cylinder (4).

Hold the rod strainer (6), unscrew the needle rod and remove the cartridge assembly with rod (9).

Assemble the new cartridge (9) into the cylinder support (2) pushing it until the shoulder of the cartridge rests on the shoulder of that support, then reassemble all parts of the valve in reverse order of the disassembly.

Present the valve in front of the module body.

Center the cartridge (9) on the module body then reassemble the screws (7).

PISTON PACKING (IND. 14)

Unscrew cylinder (4).

Remove spring (5).

Unscrew the opening signal light (8).

Unscrew nut (16).

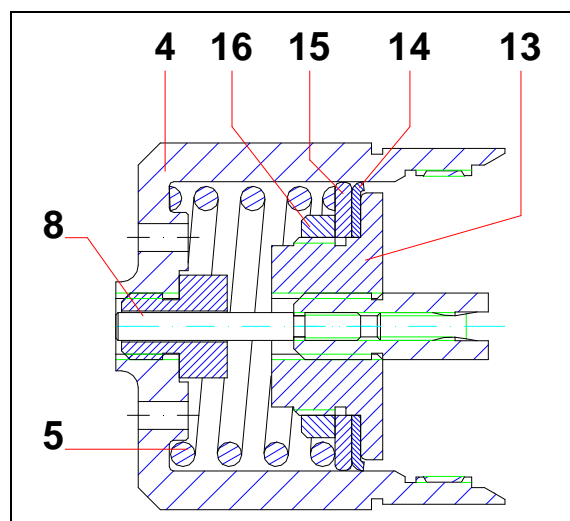
Remove the support washer (15) and the packing (14).

Clean the parts and change them if necessary.

When reassembling :

Before assembling on the piston (13), take care of shaping the cartridge lip (14) by hand as shown in the above drawing (cartridge turned up on the piston).

The nut (16) must be glued on the piston (13) with loctite adhesive (eg : Loctite 222).



19. PREVENTIVE MAINTENANCE PLAN

SUBSET	ELEMENT	OPERATION TO CARRY OUT	TIME EXPECTED	PERIODICITY	MACHINE STATE	TOOLS	SPARE PARTS P.N°
Mixer	Mixer	Remove and install a new mixer	2 mn	1 year	stop		Mixer 155.660.080
Meter	Flowmeter	Remove and clean	5 mn	2 months	stop	Appropriate cleaning solvent	
		Remove and install a new flowmeter	5 mn	1 year	stop		Flowmeter 055.660.001
Pilot valve	Pilot valve	Remove and change the cartridge	10 mn	1 year	stop		Cartridge 155.535.140
		Change the piston packing	10 mn	1 year	stop		Piston packing 029.711.302
Color changer	Pilot valve	Remove and change the cartridge	10 mn	1 year	stop		Cartridge 155.535.140
		Change the piston packing	10 mn	1 year	stop		Piston packing 029.711.302
AIRMIX® filter	Filter	Remove and clean the filter screen	5 mn	1 month	stop	Appropriate cleaning solvent	Screen # 6 129.609.908 (pack of 5) Seal 129.529.918
		Remove and install a new filter	2 mn	6 months	stop		Complete AIRMIX® filter 155.010.100