OPERATING MANUAL

MU 7071 EN A

GRAVITRONIQUE

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CONTENTS

1 GENERAL PRESENTATION AND DESCRIPTION:.....4

2 OPERATING RECOMMENDATIONS: 5

3 CONFIGURATION, SETTING AND CALIBRATION:.....6

3.1 Configuration 6

3.2 Setting 6

3.3 Calibration 6

4 DRIVER MODE:.....7

4.1 Menu DELIVERY.....8

4.1.1 Pumped delivery 8

4.1.1.1 Pumped delivery: one distribution way.....9

4.1.1.2 Pumped delivery: one distribution way + motor control (PTO) 10

4.1.1.3 Pumped delivery: two or three distribution ways 12

4.1.1.4 Pumped delivery: two or three distribution ways + motor control (PTO).....13

4.1.2 Gravity delivery 15

4.2 Menu PRODUCT MOVEMENTS.....16

4.2.1 Sub-menu RELEASE 16

4.2.2 Sub-menu HOSE PURGE 17

4.2.2.1 Configuration without product-return valves 17

4.2.2.2 Configuration with product-return valves 17

4.2.3 Sub-menu PRODUCT TRANSFER.....18

4.2.4 Sub-menu PRODUCT LOADING 18

4.2.5 Sub-menu PRODUCT RETURN 18

4.3 Menu LOADING PLAN.....19

4.4 Menu PRINTING 20

4.5 Menu DISPLAY 21

4.6 Menu MAINTENANCE.....22

4.7 List of alarms.....23

5 SUPERVISOR MODE:.....24

5.1 Menu CALIBRATION / GAUGE 24

5.1.1 Sub-menu PUMPED MODE 24

5.1.1.1 Enter gauge volume.....24

5.1.1.2 Linearization/flow.....25

5.1.2 Sub-menu GRAVITY MODE.....26

5.2 Menu PRODUCTS SETTINGS 26

5.3 Menu ADDITIVE SETTINGS 27

5.4 Menu LINES SETTINGS 27
5.5 Menu VEHICULE 27
5.6 Menu SETTINGS 28
5.6.1 Sub-menu VOLUMES SETTINGS 28
5.6.2 Sub-menu FLOWRATES SETTINGS 28
5.6.3 Sub-menu TIMING SETTINGS 28
5.7 Menu TIME ADJUSTMENT 28
5.8 Menu PRINTER SETTINGS 29
5.9 Menu LANGUAGE 29
6 METROLOGICAL MODE: 30
6.1 Menu INDICATOR REFERENCE 30
6.2 Menu CONFIGURATION 30
6.2.1 Sub-menu HYDRAULIC 31
6.2.2 Sub -menu ADDITIONAL COMMANDS 31
6.2.3 Sub -menu COMPARTMENT OPTION 31
6.2.4 Sub -menu END HEIGHT 32
6.2.5 Sub -menu TIMINGS 32
6.2.6 Sub -menu UNIT AND ACCURACY 33
6.2.7 Sub -menu CONVERSION 34
6.2.8 Sub -menu LOADING PLAN 34
6.3 Menu measuring system EMA 35
6.3.1 Sub -menu METER COEFFICIENT 35
6.3.2 Sub -menu CORRECTION 35
6.3.3 Sub -menu METER FLOWRATES 36
6.3.4 Sub -menu VOLUMES 36
6.3.5 Sub -menu TEMPERATURE 36
6.3.6 Sub -menu DETECTORS 37
6.3.7 Sub -menu GRAVITY VALVE 37
6.4 Menu EMBEDDED COMPUTING 37
6.5 Menu DATE AND TIME 37
ANNEXE 38
RELATED DOCUMENTS 40

1 GENERAL PRESENTATION AND DESCRIPTION:

The GRAVITRONIQUE is designed to measure volumes of liquid in preset or free mode from each compartments of a road-tanker. It can be used for gravity or pumped distribution.

The GRAVITRONIQUE is fitted with the following components:

- ⇨ A turbine meter
- ⇨ A MICROCOMPT+ electronic calculator-indicator device
- ⇨ A differential pressure sensor
- ⇨ A gas detector used as end-of-metering probe located upstream of the turbine meter. It detects the absence of liquid and triggers the end of metering
- ⇨ A gas detector used as vacuity sensor located downstream of the turbine meter. It control the complete draining for gravity distribution
- ⇨ A transfer valve which regulates flow
- ⇨ Air-operated gates connecting each compartment with the manifold
- ⇨ A temperature probe (option)
- ⇨ A printer (option).

The GRAVITRONIQUE is designed to measure volumes of liquid by gravity (pre-set or not). An option takes into account the temperature of liquid.

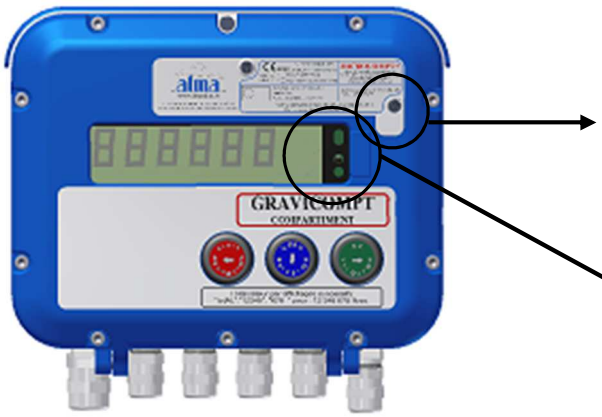
It controls up to 6 compartments with a maximum of 16 products which names are configurable.

Depending on the configuration, the GRAVITRONIQUE can control one, two or three pumped distribution ways and one gravity distribution way.

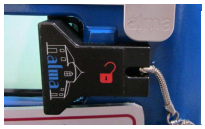
In option, it may print delivery tickets, internal totalisers, parameters, and events diary.

NOTE : The information printed by the printer has no metrological value. Only the indications displayed by the indicator shall be considered legally valid.

Presentation of the MICROCOMPT+ calculator-indicator:

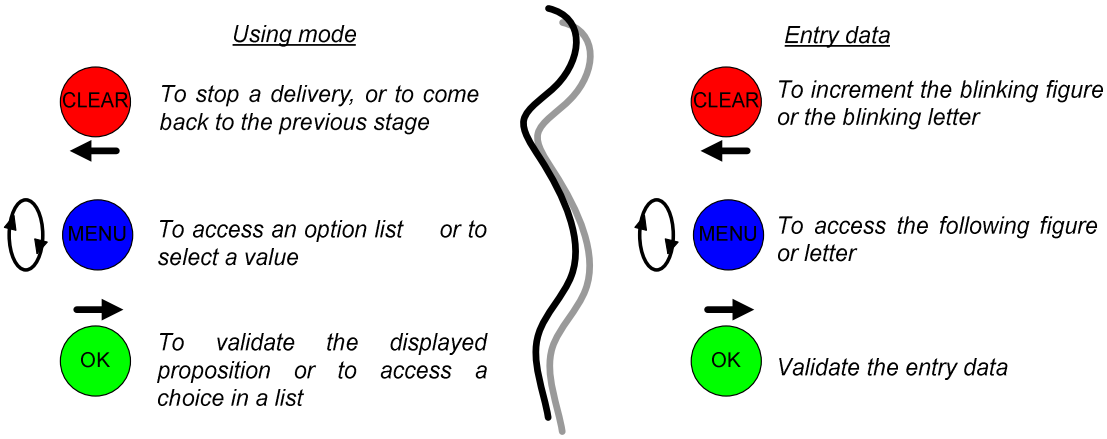


Sealed cup protecting access to metrological functions



SUPERVISOR magnetic key to access configuration and calibration menu

Buttons function:



The MICROCOMPT+ calculator-indicator manages measuring operation and computerizes the measuring system defaults.

2 OPERATING RECOMMENDATIONS:

For a use of the GRAVITRONIQUE in pumped mode, the operator must make sure that all of the following conditions are met:

- ⇨ The tank operating position does not differ by ± 2% from the horizontal reference position (to avoid product retention)
- ⇨ The unloading hose must be installed to ensure an easy outflow during delivery; the maximum length of the discharge DN80 hose, is 12 metres
- ⇨ The operator must remain beside the metering system during delivery to stop the flow, if necessary, by closing the API valve on the outlet of the tank compartment.

For a use of the GRAVITRONIQUE in gravity mode, the operator must make sure that all of the following conditions are met:

- ⇨ The piping linking each compartment and the transfer valve must have a minimum pitching of 3%. The vehicle on which the measuring system is installed must be fitted with a device to ensure it is horizontal
- ⇨ The end-of-counting sensor is placed so that it can detect the vacuity of the collector on the smallest free surface.

3 CONFIGURATION, SETTING AND CALIBRATION:

3.1 Configuration

To access the METROLOGICAL mode, the MICROCOMPT+ has to be unsealed. Only an authorized person can remove the seal. This mode allows setting all metrological parameters. It's done at the putting into use of the measuring system and sometimes during metrological controls.

Refer to METROLOGICAL MODE for configuration.

3.2 Setting

To access the SUPERVISOR mode, the magnetic key must be set at the right of the MICROCOMPT+ display. This mode is used to set the measuring system and to access the calibration menu. Before using the GRAVITRONIQUE, enter the value of the parameters such as:

- Products: name, type of product, price, additivation, correction
- Additive, metering lines
- The vehicle identification
- Volumes, flowrates and timing settings
- Printing conditions
- The display language

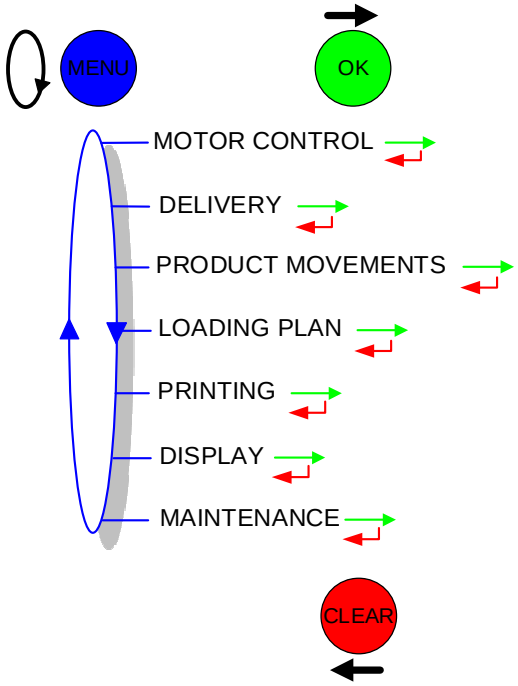
Refer to SUPERVISOR MODE for setup.

3.3 Calibration

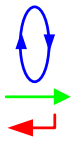
Having made the proving of the metering, this menu "CALIBRATION/GAUGE" allows calculating the error and the new coefficient.

Refer to SUPERVISOR MODE for details on the gauging procedure.

4 DRIVER MODE:



LEGEND:



Press the button (red, blue or green) as many times as necessary to display the next message

The use of GRAVITRONIQUE measuring system depends on the hardware configuration of the truck, the features and the configuration of the equipment carried out during the putting into use.

Therefore, the user menu depends on several items:

- ⇨ The number of distribution ways (from one to three)
- ⇨ The remote control
- ⇨ The number of compartments
- ⇨ The control of the compartments flaps
- ⇨ The control of the return product system (SRP)
- ⇨ The delivery mode (pumped, gravity)
- ⇨ The temperature control (conversion of the volume).

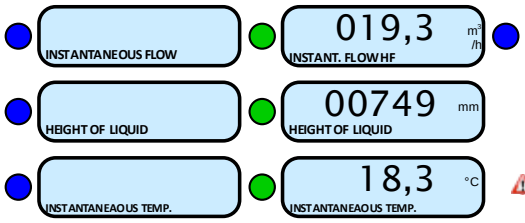
There are several distribution modes:

- ⇨ PRESET of the volume
- ⇨ PRESET of the volume + hose PURGE: only available if the flap control is activated.
  In addition, this distribution mode is not proposed:
  - For a delivery with empty hose
  - In case of pollution of the hose
- ⇨ FREE mode (in low or high flow rate)

During delivery, the following information may be displayed:

- ⇨ The instantaneous flow rate in high or low flowrate (m^3/h or L/min; depending on the display unit set)
- ⇨ The product height (mm)
- ⇨ The temperature (°C) if it is taken into account.

Simply follow the indications below:



Change displayed flowrate (HF/LF). Unit: m^3/h or L/min

With active option

Back to normal display is automatic.
DON'T PRESS STOP PUSHBUTTON.

In user mode, the GRAVITRONIQUE displays a blinking volume which is the volume that just has been delivered.

Pumped delivery:

Before starting measuring, the driver must initialize the MICROCOMPT+ calculator device by validating the pumped delivery choice, the product and the compartment. He can choose if the distribution mode is 'PRESET' or 'FREE'.

If a pumped delivery occurs after a gravity delivery, the MICROCOMPT+ triggers an automatic sequence in order to fill the manifold before starting the delivery.

Delivery can be performed in high or low flow. This choice is made for pumped deliveries at the display of the message 'START HF DISCHARGE'. The blue MENU BUTTON switches on the display 'START LF DISCHARGE'. The choice is made by pressing the green OK BUTTON. Switching is possible during the delivery.

Gravity delivery:

The manifold is empty.

The driver must initialize the MICROCOMPT+ calculator device by validating the gravity delivery choice, the product and the compartment. He can choose if the distribution mode is 'PRESET' or 'FREE'.

Since initialization has been done, the MICROCOMPT+ opens the compartment bypass flap, the manifold fills up. When it's full, the MICROCOMPT+ starts the delivery.

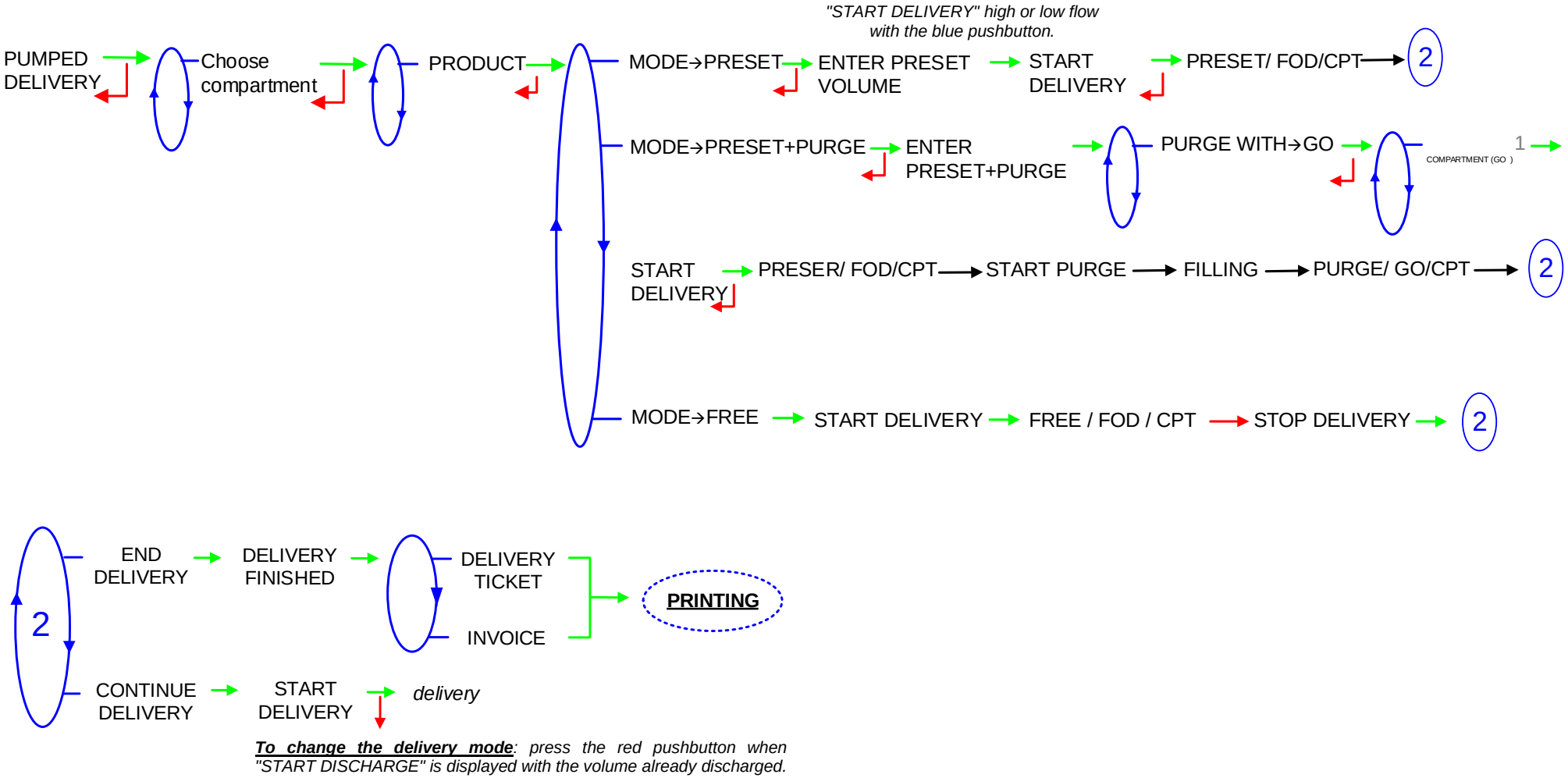
If a gravity delivery occurs after a pumped delivery, the MICROCOMPT+ triggers an automatic release procedure in order to drain the manifold and to avoid any mixture of product.

4.1 Menu DELIVERY

4.1.1 Pumped delivery

4.1.1.1 One distribution way 9
4.1.1.2 One distribution way + motor control (PTO) 10
4.1.1.3 Two or three distribution ways 12
4.1.1.4 Two or three distribution ways + motor control (PTO) 13

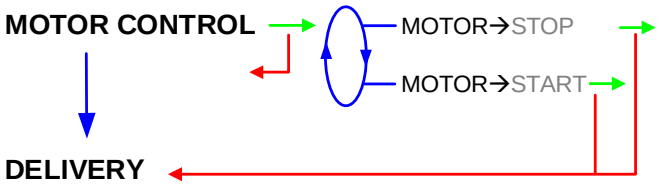
4.1.1.1 Pumped delivery: one distribution way



***To change the delivery mode**: press the red pushbutton when "START DISCHARGE" is displayed with the volume already discharged.*

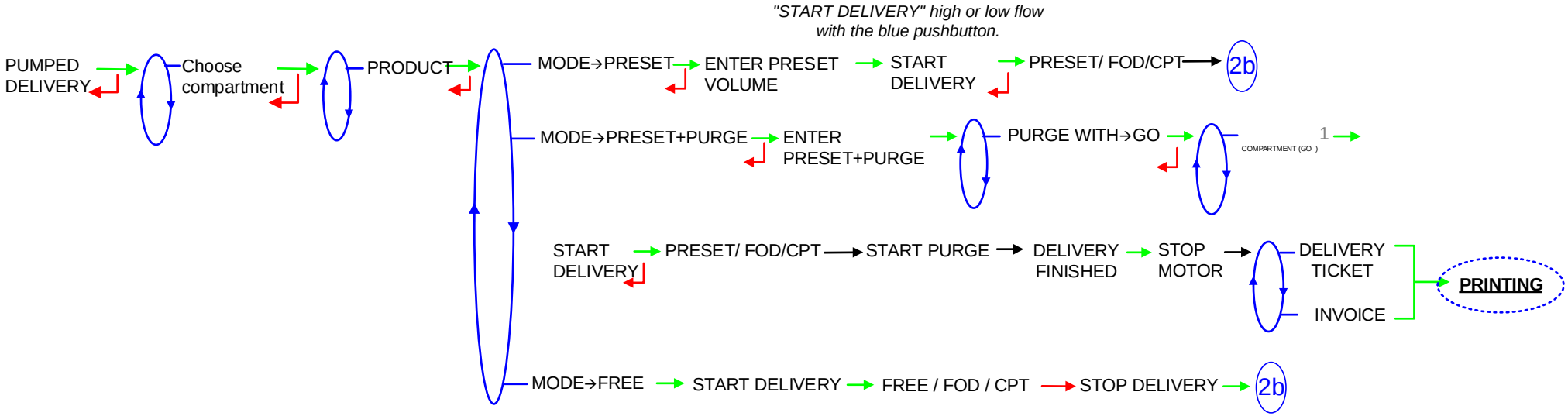
4.1.1.2 Pumped delivery: one distribution way + motor control (PTO)

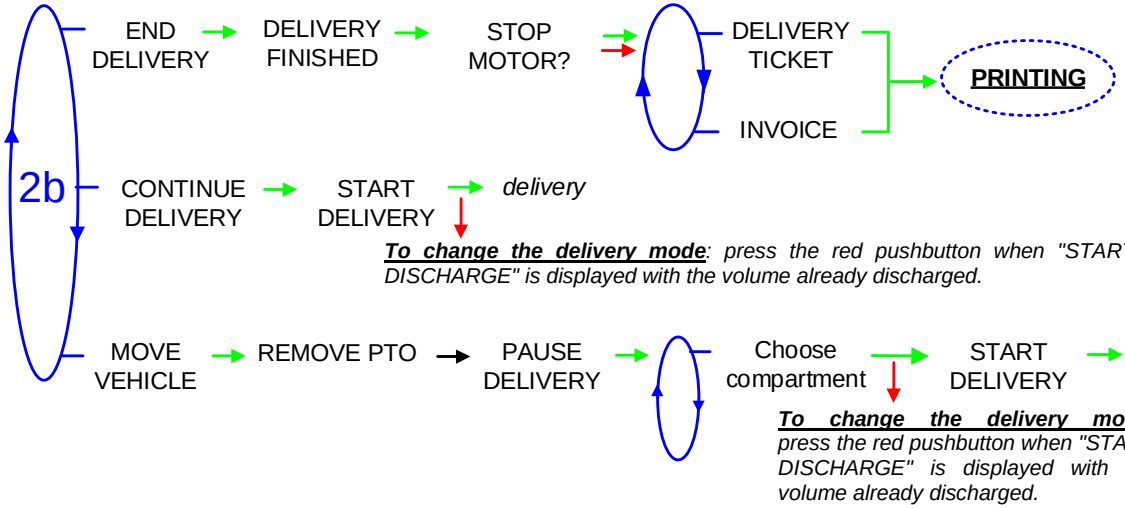
MOTOR CONTROL



The commands for the pump clutch/declutching and for the power take-off control are realised by the GRAVITRONIQUE at the beginning and at the end of distribution.

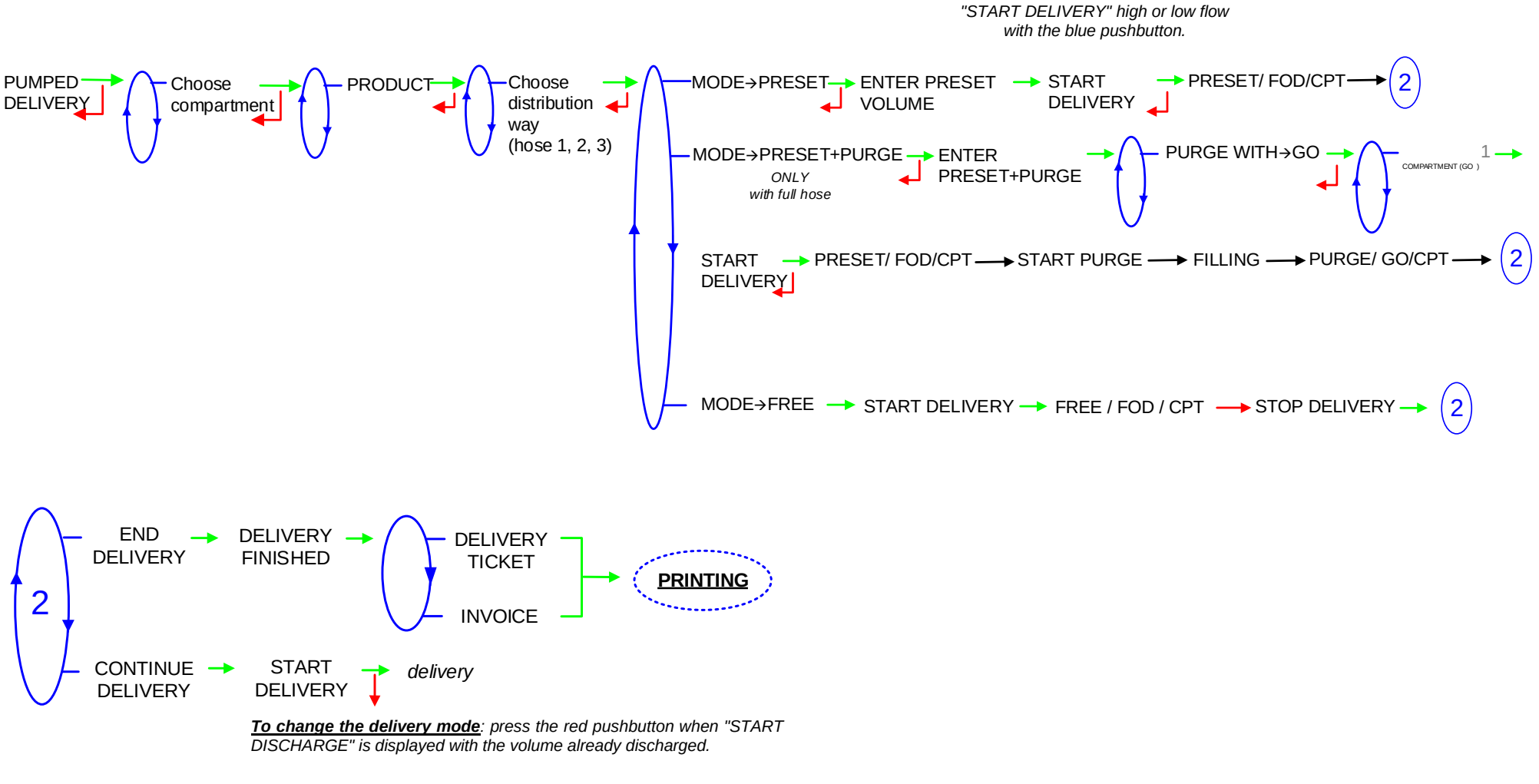
DELIVERY





If it's necessary to move the vehicle, the distribution has to be stopped for a moment, then choose the "MOVE VEHICLE" item. The GRAVITRONIQUE switches off the power take-off, clutches the engine and freezes the MICROCOMPT indicator on "PAUSE". Press green button to continue distribution.

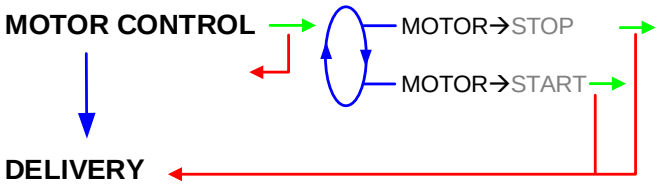
4.1.1.3 Pumped delivery: two or three distribution ways



***To change the delivery mode**: press the red pushbutton when "START DISCHARGE" is displayed with the volume already discharged.*

4.1.1.4 Pumped delivery: two or three distribution ways + motor control (PTO)

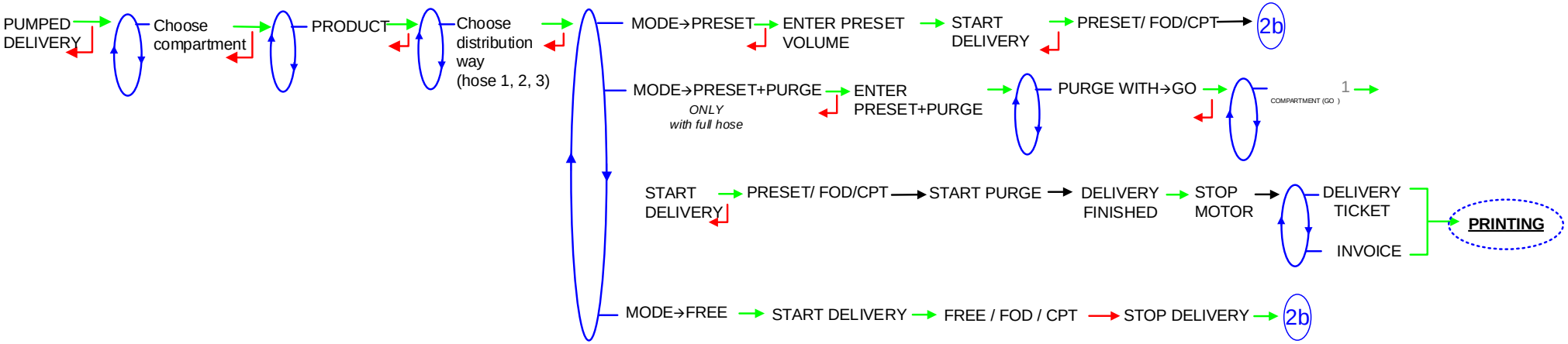
MOTOR CONTROL

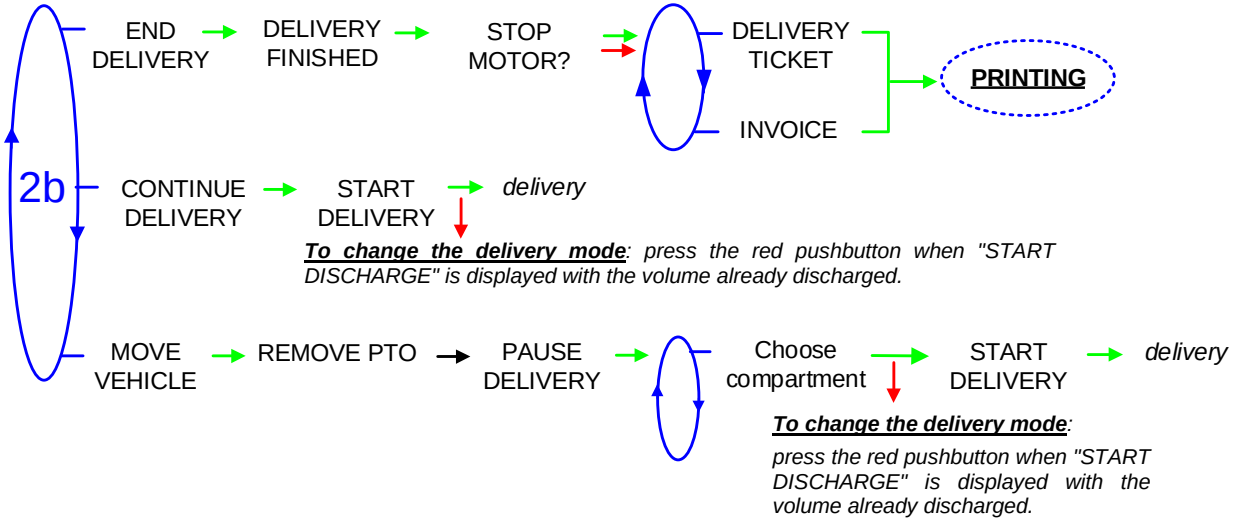


The commands for the pump clutch/declutching and for the power take-off control are realised by the GRAVITRONIQUE at the beginning and at the end of distribution.

DELIVERY

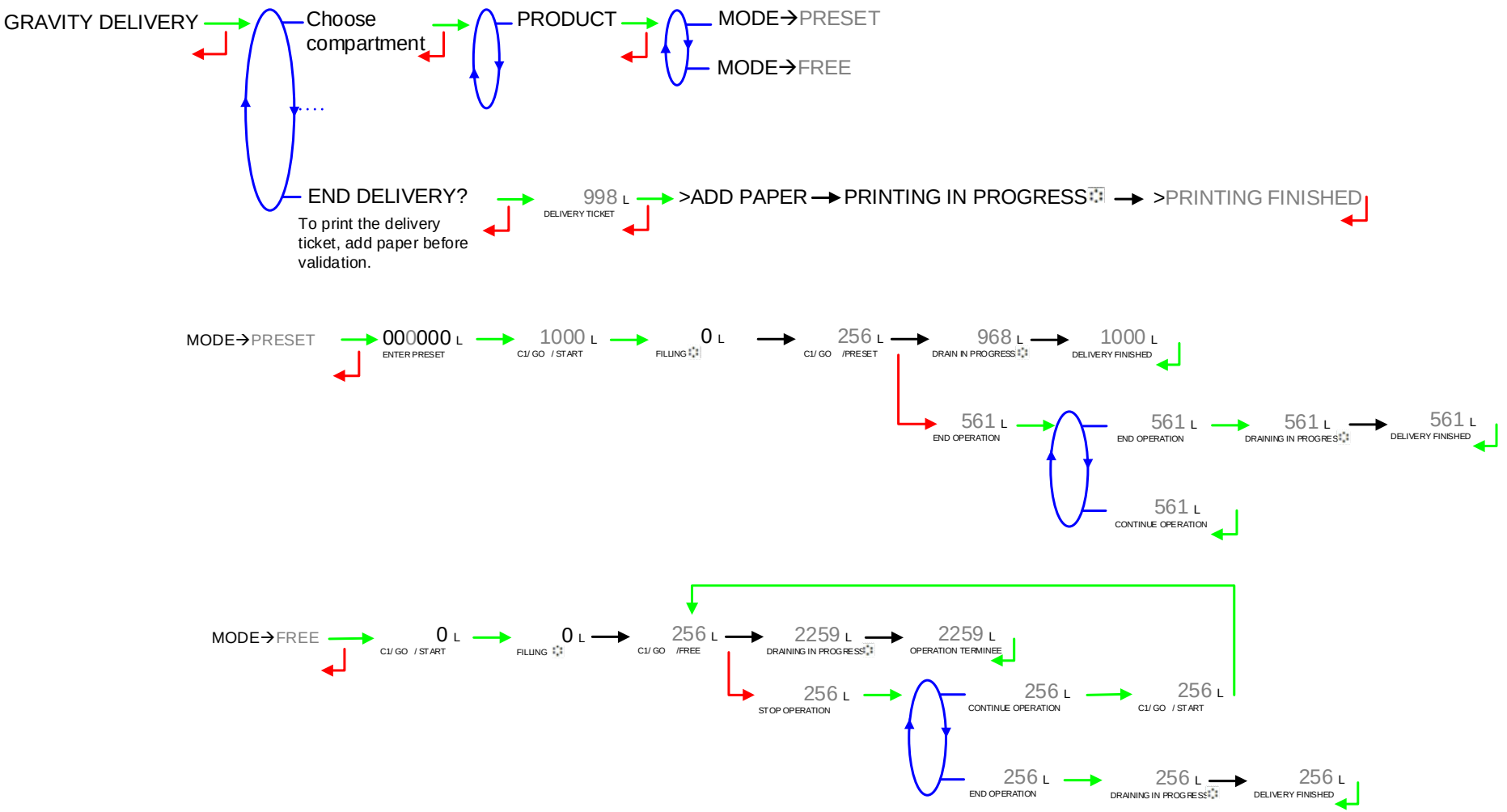
"START DELIVERY" high or low flow with the blue pushbutton.



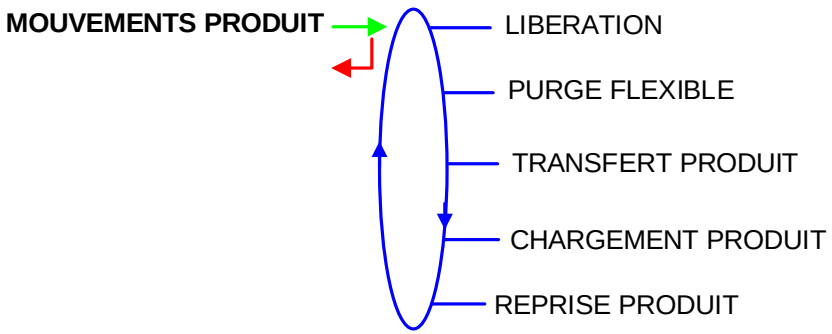


If it's necessary to move the vehicle, the distribution has to be stopped for a moment, then choose the "MOVE VEHICLE" item. The GRAVITRONIQUE switches off the power take-off, clutches the engine and freezes the MICROCOMPT indicator on "PAUSE". Press green button to continue distribution.

4.1.2 Gravity delivery

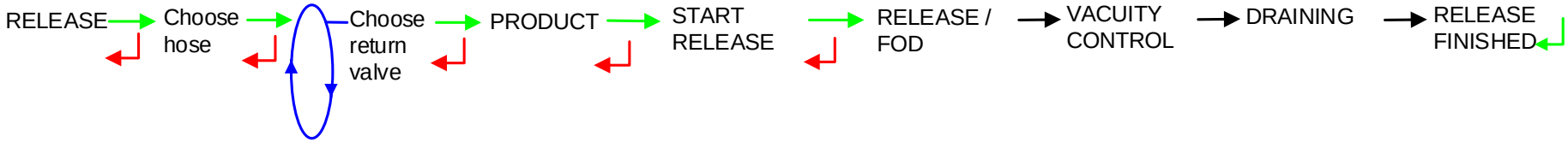


4.2 Menu PRODUCT MOVEMENTS



4.2.1 Sub-menu RELEASE

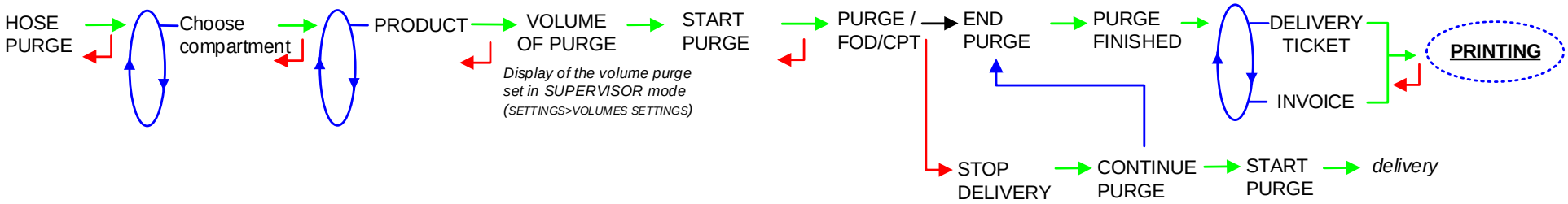
This sequence is used to drain the manifold and to avoid any mixture of product. The GRAVITRONIQUE forces the “release procedure” before starting a gravity delivery that occurs after a pumped delivery.



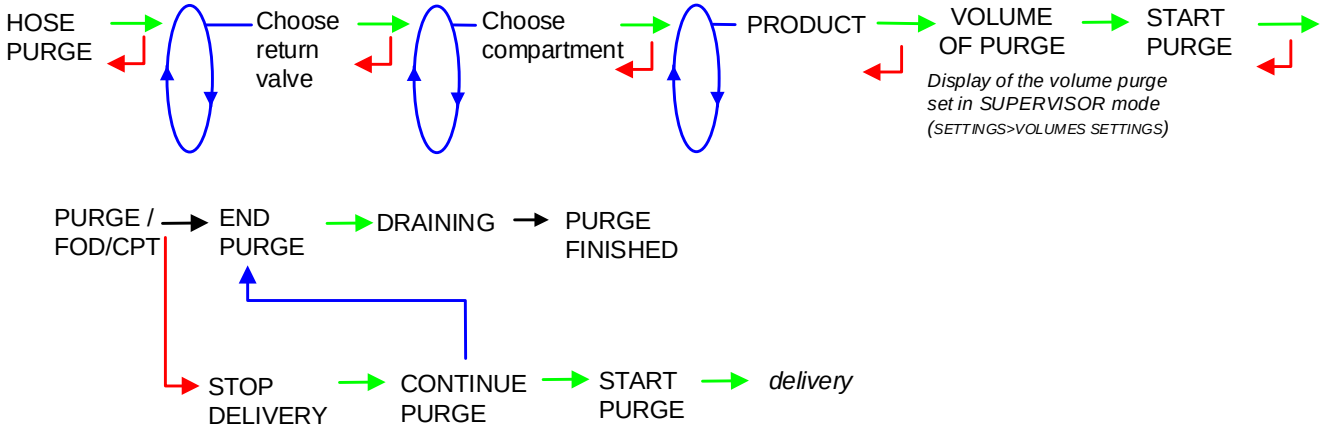
4.2.2 Sub-menu HOSE PURGE

This menu allows purging the hose in order to change the quality of the product.

4.2.2.1 Configuration without product-return valves

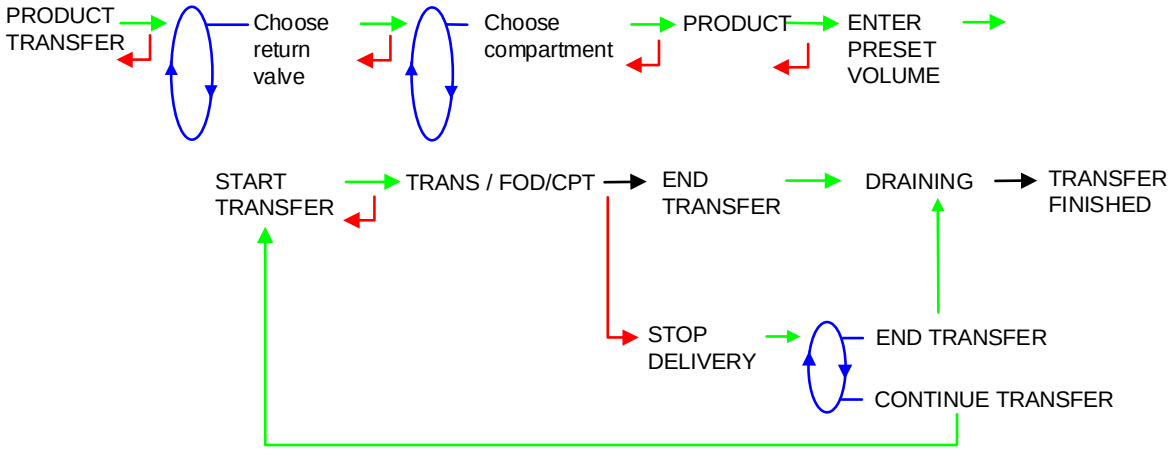


4.2.2.2 Configuration with product-return valves



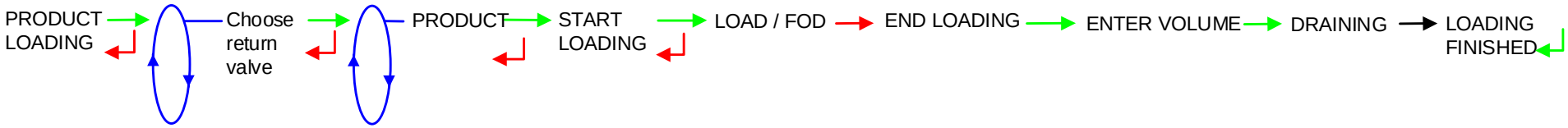
4.2.3 Sub-menu PRODUCT TRANSFER

This menu allows unloading the product from one compartment either to another compartment or to a compartment of another truck or to a loading terminal.



4.2.4 Sub-menu PRODUCT LOADING

This menu allows shifting product from one truck to another truck.

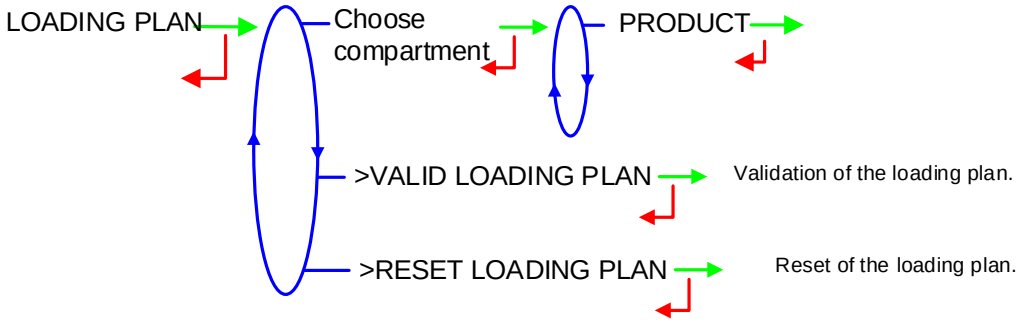


4.2.5 Sub-menu PRODUCT RETURN

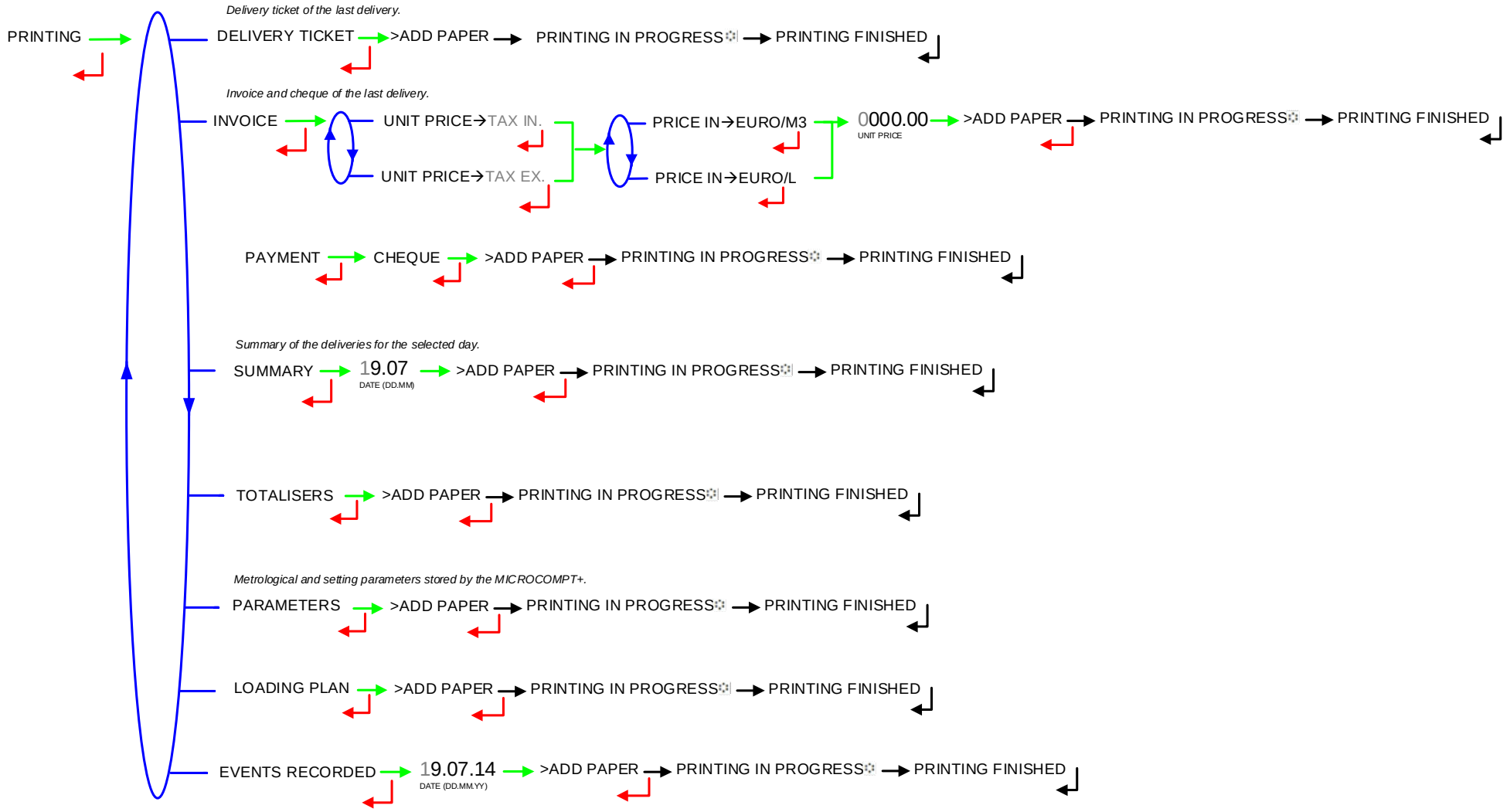
4.3 Menu LOADING PLAN

Depends on METROLOGICAL configuration. Not used if the function has not been activated.

The **LOADING PLAN** menu is used to determine the product quality for each compartment. In case of a blocking function, an empty compartment won't be available for a delivery until you enter a new product quality via this menu.



4.4 Menu PRINTING



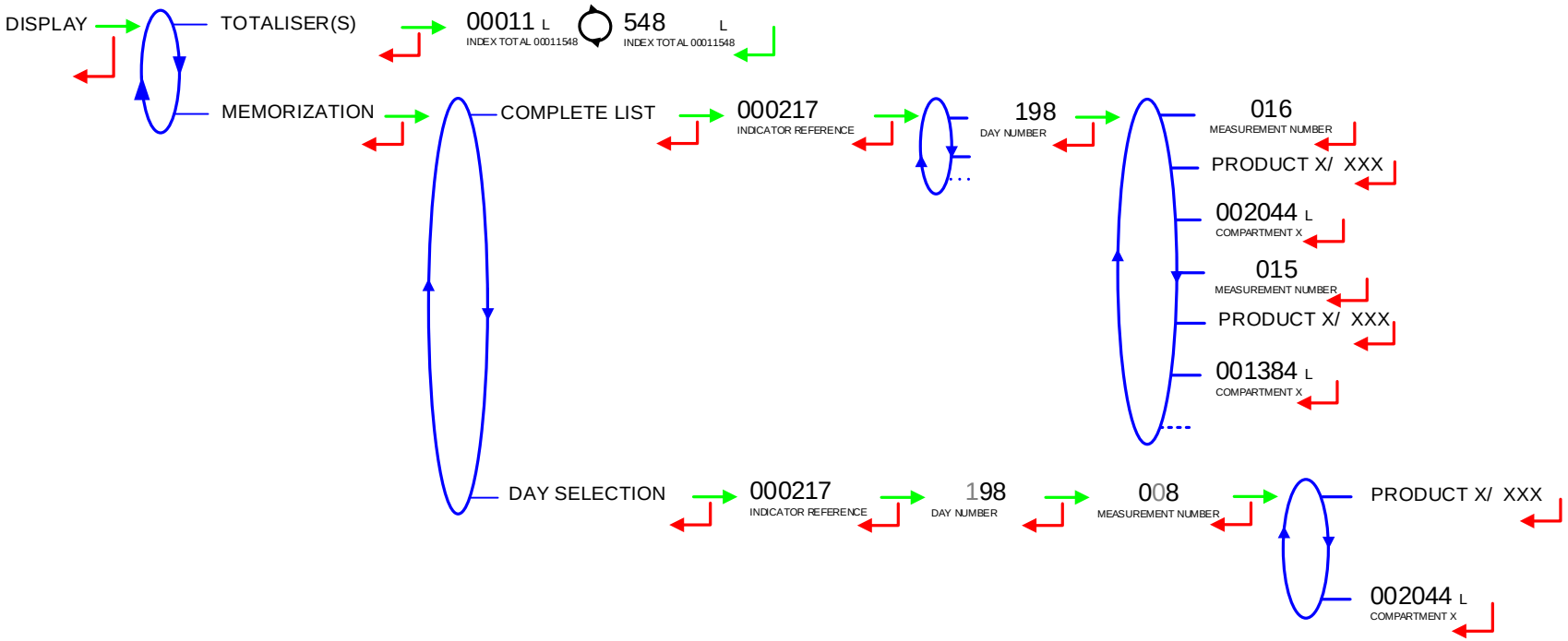
4.5 Menu DISPLAY

This menu is available in stand-by mode or during an intermediate stop. It allows the proofreading of all the measurement results stored by the GRAVITRONIQUE. That can be done in two ways:

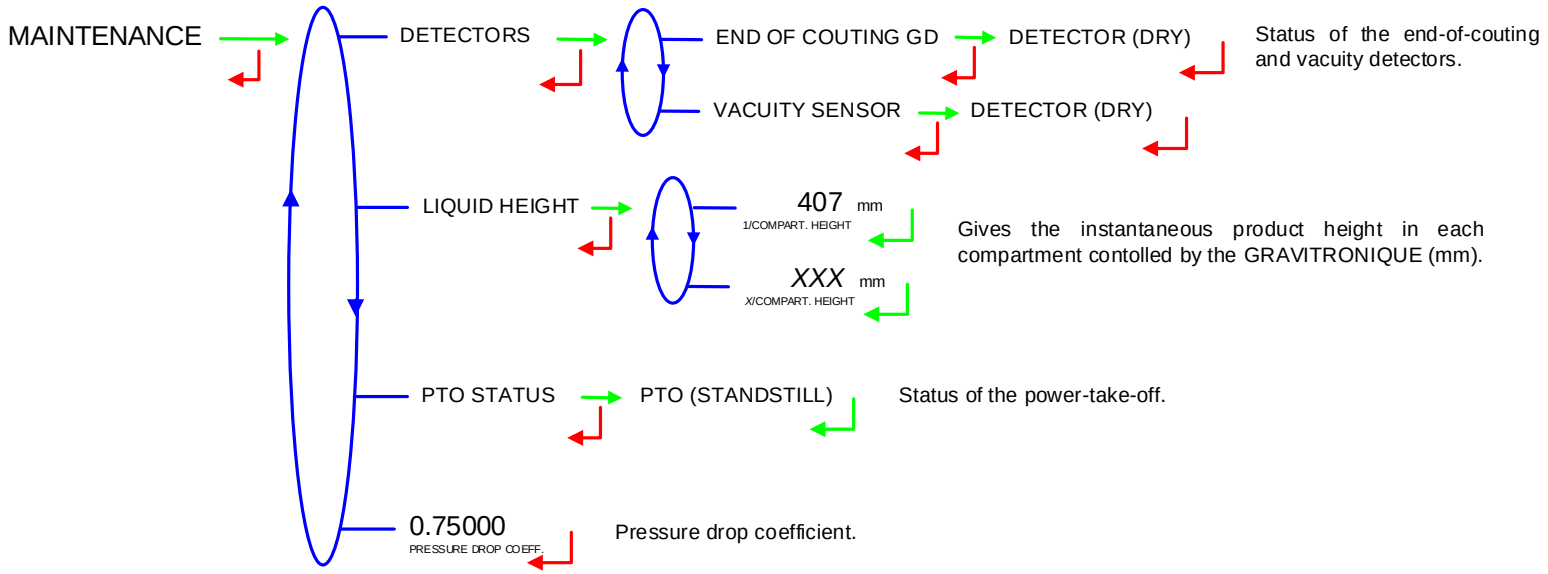
COMPLETE LIST: Display all the measurement details recorded, from the newest to the oldest, sorted by day then by measurement number.

DAY SELECTION: Display a specific measurement by selecting the day number.

For each measurement, are displayed: the name of the product, the measured volume and the compartment number.



4.6 Menu MAINTENANCE



NOTE: indication on the gas detector LED diodes

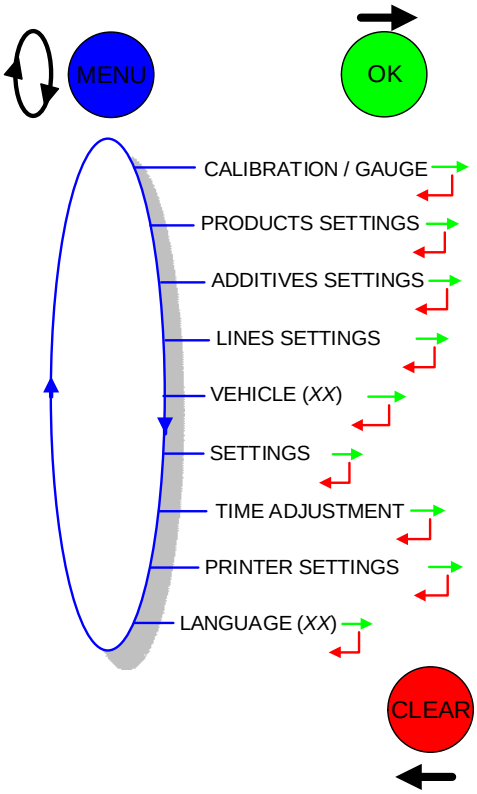
GREEN LED: gas detector powered on

RED LED: ON: gas detector dry
OFF: gas detector wet

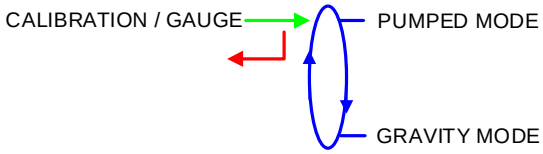
4.7 List of alarms

		DISPLAY	MEANING	ACTION
USER	COMMON	STOP DELIVERY	Intentional interruption of discharge	Continue, stop or finish the operation
		PRINTER DEFAULT	No more communication with the printer	Check the connection cable, on-off switch and fuse
		POWER SUPPLY PROBLEM	Power outage during delivery	Check the cause / Restore power supply
		ZERO FLOW DEFAULT	Zero flow	Check if the pulse transmitter is powered (red indicators)
		LOW FLOW DEFAULT	Low flowrate (less than 4m^3/h)	Check the hydraulic system (valve, strainer, nozzle…)
		HIGH FLOW DEFAULT	High flowrate (greater than maximum flowrate)	Check the parameters / Reduce flowrate
		DIARY DEFAULT	Reset of the events diary	Acknowledge the alarm, check the date in supervisor mode (magnet key)
	PUMPED	GAS DETECTOR DEFAULT	End-of-counting detector failure	Use the maintenance mode to check the status of the detector
		EMA METERING PROBLEM	Metering problem with the measuring device	Check if the pulse transmitter is powered (red indicators),
		PTO DEFAULT	Coherence failure with power take-off	Check the power take-off status in driver's cab
		OVERFILL DEFAULT	Overfilling during a product movement	Transfer product in another compartment
		RUPTURE GD DEFAULT	Rupture detector failure	Use the maintenance mode to check the status of the detector
		PURGE NOT FINISHED	Purge of manifold (and/or hose) not finished	Finish the purge of the manifold (and/or hose)
	GRAVITY	MANIFOLD NOT EMPTY	The manifold is not empty at the beginning of the operation	Follow the manifold release sequence
		FILLING DEFAULT	The manifold is not full of product	Fill the manifold
		FLAP LEAK DEFAULT	Product leakage from a flap	Check the flap
REPAIRER	COMMON	DISPLAY DEFAULT	Problem with display card	If steady alarm, substitution of the display card
		WATCHDOG DEFAULT	Fault with display or power card or AFSEC+ card	Switch on-off the MICROCOMPT+ / If steady alarm, substitution of the faulty card
		VOLUME CONVER DEFAUT	Problem during conversion of volume	If steady alarm, substitution of the AFSEC+ electronic card
	PUMPED	TOTALISER LOST	Loss of totalizer	Substitution of the backup battery
		PRESSURE DEFAULT	Pressure determination failure	If steady alarm, see a reparator for trouble shooting
		TEMPERATURE DEFAULT	Temperature determination failure	If steady alarm, see a reparator for trouble shooting
	BLOCKING	MEMORY LOST (PILE)	Loss of saved memory	Substitution of the backup battery
		MEMORY LOST	Delivery diary lost	Enter and exit the METRO mode / If steady alarm, substitution of the backup battery
		DATE AND TIME LOST	Loss of date and time	Set date and time in supervisor mode (magnetic key)
		COEFFICIENTS DEFAULT	Deviation between coefficient LF/HF greater than 0.5%	Modification of the low flow coefficient (K1)
		GAS DEFAULT	Detection of air during high flow delivery	If steady alarm, see a reparator for trouble shooting
		PROM DEFAULT	Loss of software or resident integrity	Substitution of the AFSEC+ electronic card
		RAM DEFAULT	Saved memory fault	Substitution of the AFSEC+ electronic card
		EEPROM MEMORY LOST	Loss of metrological configuration	Substitution of the AFSEC+ electronic card
		MEMORY OVER LOADED	Delivery diary is full	Substitution of the AFSEC+ electronic card

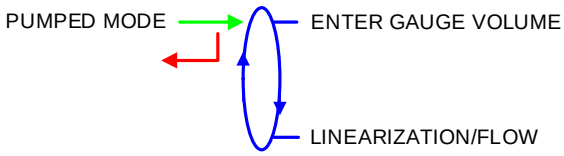
5 SUPERVISOR MODE:



5.1 Menu CALIBRATION / GAUGE



5.1.1 Sub-menu PUMPED MODE



5.1.1.1 Enter gauge volume

This menu allows you to check the accuracy of the measuring system by calculating the measuring device error and the new corrected coefficient. It is possible then to linearize the curve on 2 measuring points.

First, fill the gauge (DRIVER mode) in high or low flow with predetermination of the volume.

Switch to SUPERVISOR mode, choose 'CALIBRATION/GAUGE>PUMPED MODE>ENTER GAUGE VOLUME' and validate. Enter the volume read on the gauge and validate. The following information is then displayed:

- The signed error in %
- The coefficient revised as a function of the error
- The average flow of the delivery.

5.1.1.2 Linearization/flow

This menu is used to make a flow-correction for two measuring points (at low and high flowrate). The MICROCOMPT+ stores flowrate and coefficient calibrated values in order to define both correction points: at low and high flowrate.

Linearization is proposed only for the main product. When you validate the menu LINEARIZARION/FLOW, the calibrated values are displayed; you need to unseal the MICROCOMPT+ to switch in METROLOGICAL mode and enter the values via the EMA>METER COEFFICIENT menu.

To linearize the curve, two tests are necessary. Follow the instructions:

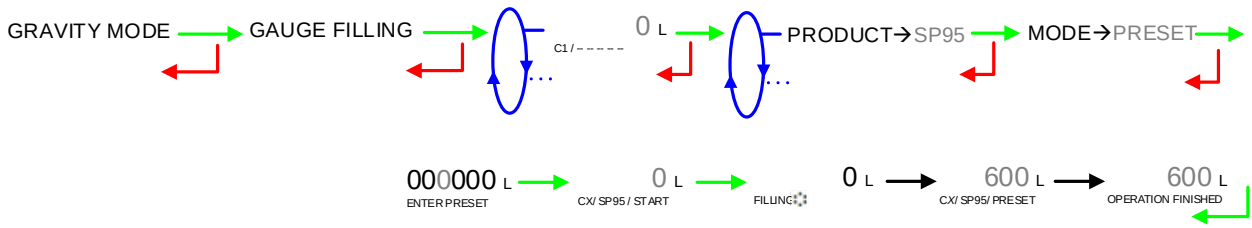
- Fill the gauge in high flow $[flow_{min} \times 3] \leq$ high flow $< [flow_{max}]$, and enter the volume read on the gauge in the menu 'CALIBRATION/ STANDARD > ENTER GAUGE VOLUME' as described above
- Fill the gauge in low flow $[flow_{min}] \leq$ low flow $\leq flow_{min} \times 2]$, enter the volume read on the gauge in the menu 'CALIBRATION/GAUGE > ENTER GAUGE VOLUME' as described above
- Choose 'CALIBRATION/GAUGE>PUMPED MODE>LINEARIZARION/FLOW' and validate. It is then possible to see the coefficients and the flow rates data for the two tests carried out.

If the procedure failed, the following alarms may be displayed:

- 'LARGE GAP K1/K2': correction between both measuring points >0.5%
- 'FLOWS TOO CLOSED': High flowrate value is out of range. It needs to be: $[flow_{min} \times 3] \leq$ high flow $< [flow_{max}]$
- 'LO-FLOW OUT OF RANGE': Low flowrate value is out of range. It needs to be: $[flow_{min}] \leq$ low flow $\leq flow_{min} \times 2]$
- 'ONLY ONE GAUGE': One of the tests has not been done (at low or high flowrate)
- 'NO VALID GAUGE': Both tests have not been done (at low and high flowrate)

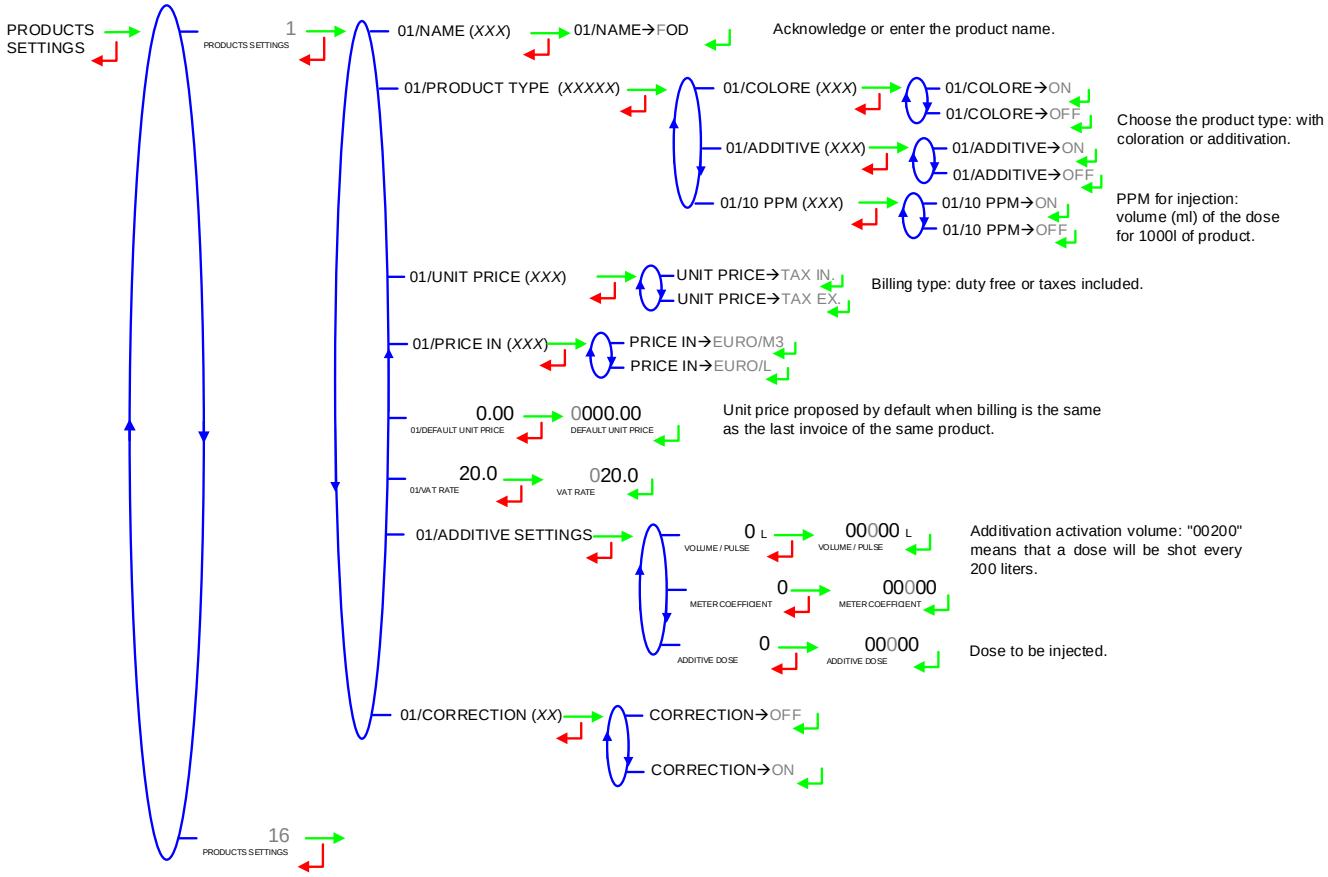
5.1.2 Sub-menu GRAVITY MODE

This menu is used for filling the gauge with keeping the manifold full of product. Use it the same way as the user mode; at the end of the operation, the manifold is not drained.



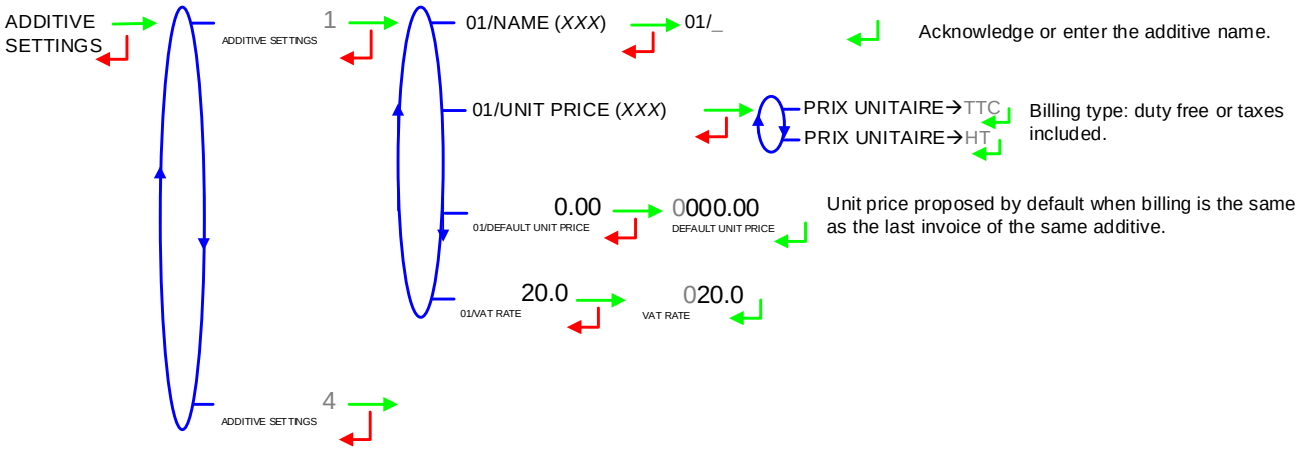
5.2 Menu PRODUCTS SETTINGS

Definition of products: names (for the 7 first products, default names are proposed), product type, price, tax, configuration of additive, correction.



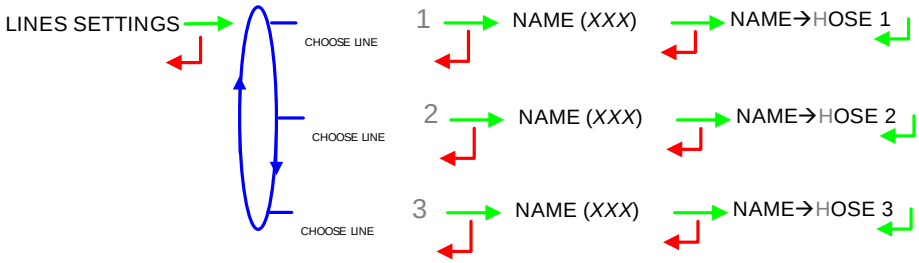
5.3 Menu ADDITIVE SETTINGS

Definition of additives added manually: name, price, tax.



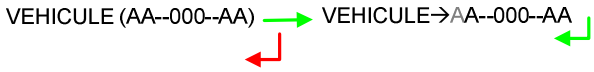
5.4 Menu LINES SETTINGS

Definition of the distribution lines: acknowledge or enter the line name. The number of lines depends on the hydraulic configuration of the installation (refer to METROLOGICAL mode).



5.5 Menu VEHICULE

Enter vehicle identification: set the vehicle registry number on which the GRAVITRONIQUE is installed. This number will be printed on delivery tickets, invoices…



5.6 Menu SETTINGS

5.6.1 Sub-menu VOLUMES SETTINGS

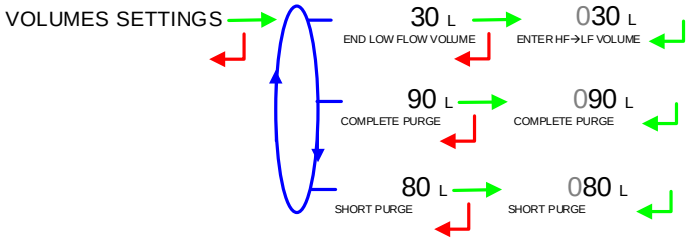
This menu allows you to configure the volume parameters:

END LOW FLOW VOLUME: Set the volume (in liters) delivered in low flowrate to finish the delivery

The volume of purge (liters) depends on the truck (manifold, hose...); it is given when putting into use. If the volume is at 0, the manifold is not drained, the flap is directly opened.

COMPLETE PURGE: Purge of the manifold and the hose (delivery of FOD then GO).

SHORT PURGE: To avoid polluting the line (delivery of GO then FOD). This volume must be between 80 and 95% of the complete purge volume.



5.6.2 Sub-menu FLOWRATES SETTINGS

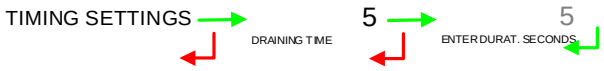
This menu allows you to configure the flowrates parameters:

LF--HF FLOWRATE: Set the flowrate beyond which the MICROCOMPT (running in low flowrate) controls the high flowrate.

5.6.3 Sub-menu TIMING SETTINGS

This menu allows setting the duration parameters:

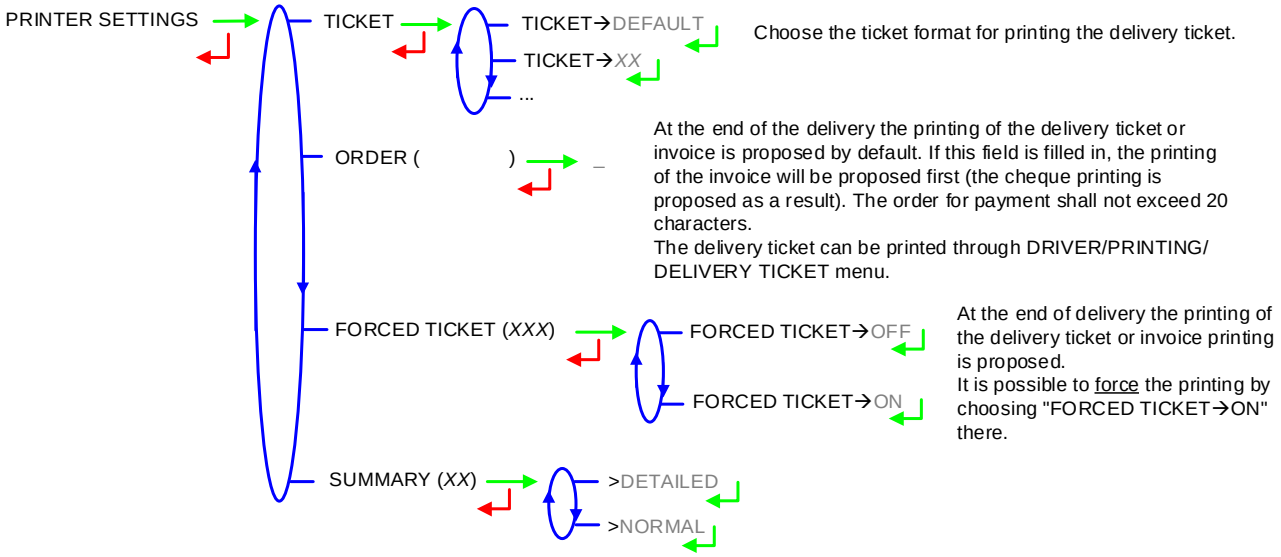
DRAINING TIME: Enter the draining time (in seconds).



5.7 Menu TIME ADJUSTMENT

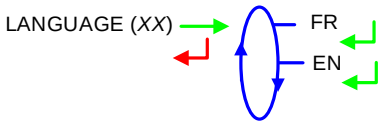
Date and time are set in METROLOGICAL mode. The hour may be adjusted (±2h) one time a day through this menu.

5.8 Menu PRINTER SETTINGS

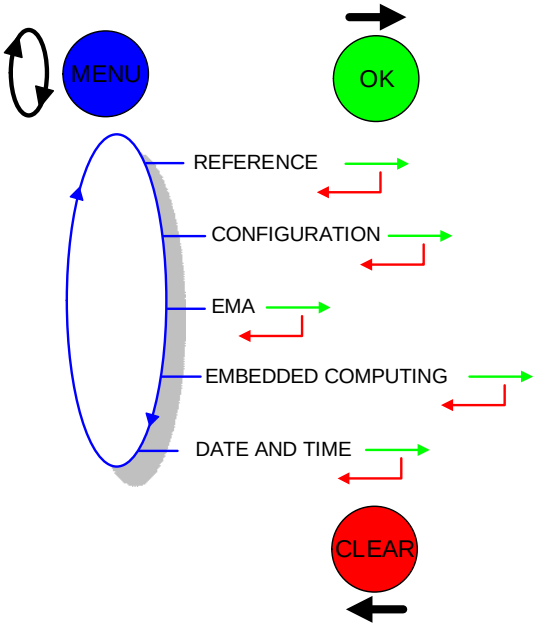


5.9 Menu LANGUAGE

This menu allows you to choose the display language. It is available if a translation catalogue has been uploaded in the MICROCOMPT+.

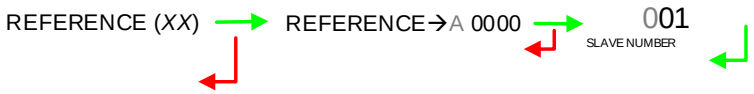


6 METROLOGICAL MODE:

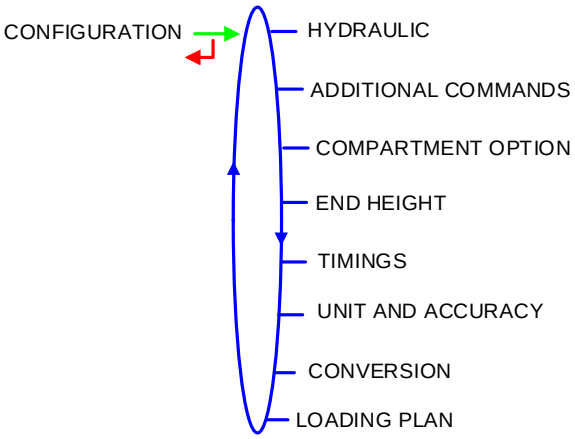


6.1 Menu INDICATOR REFERENCE

Set the MICROCOMPT+ serial number then the slave number.



6.2 Menu CONFIGURATION

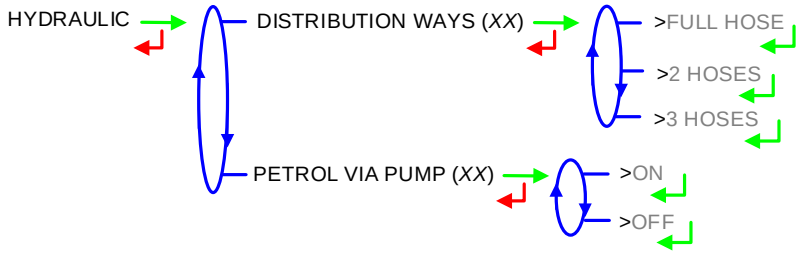


6.2.1 Sub-menu HYDRAULIC

This menu is used to set the hydraulic configuration of the installation.

Number of distribution ways for a pumped delivery: from 1 to 3

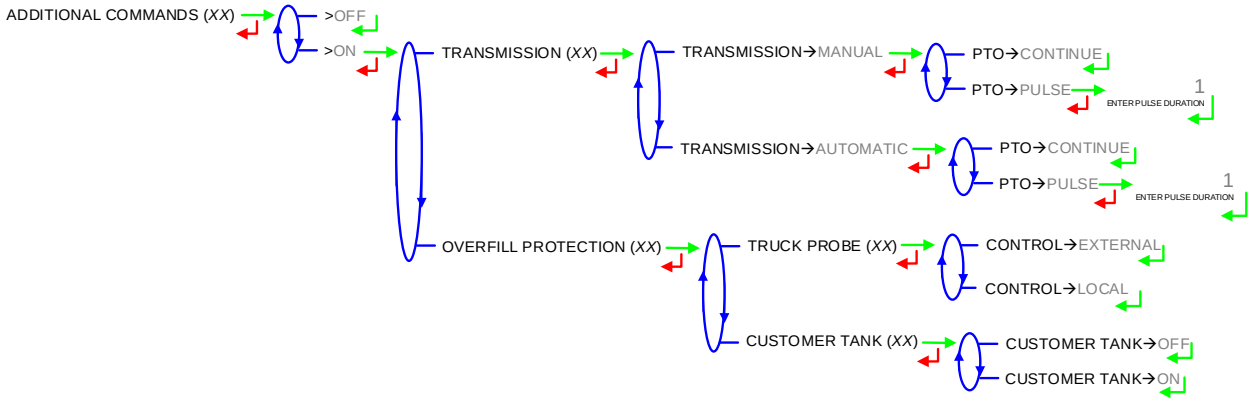
Number of distribution ways for a gravity delivery: 1



6.2.2 Sub -menu ADDITIONAL COMMANDS

Operation with or without a remote control (engine start and stop, clutch and power take off).

Choose the command of transmission: non-stop command or by pulse.



6.2.3 Sub -menu COMPARTMENT OPTION

This menu is used to set the configuration of the compartments:

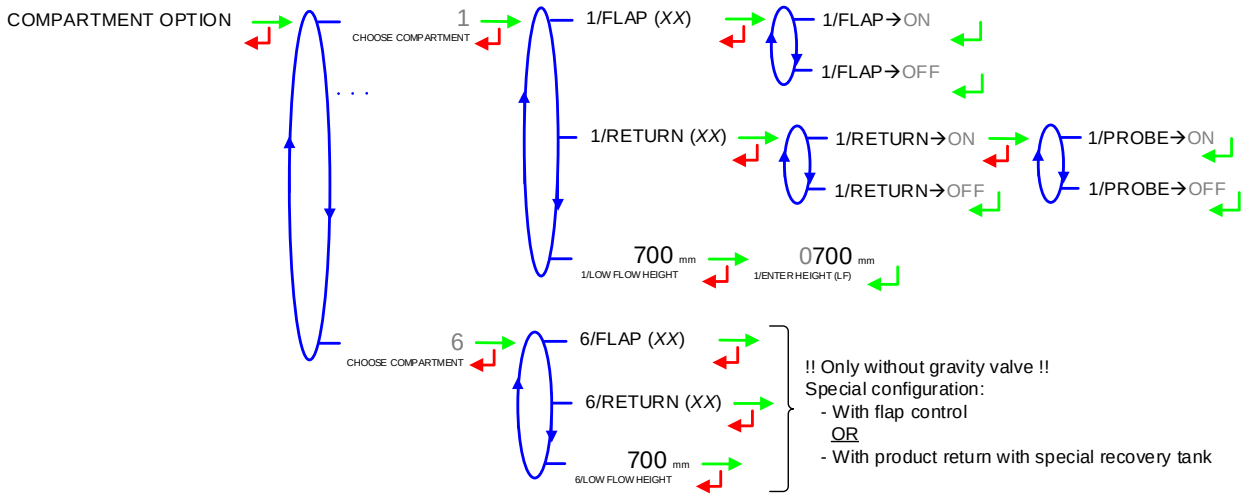
FLAP: Operation with or without flap control

RETURN: Operation with or without product return

PROBE: Overfill protection probe of the compartment

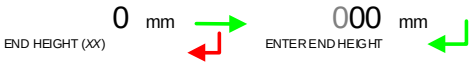
LOW FLOW HEIGHT: Geometric height to command low flow (mm).

For gravity delivery, the compartment number is restricted to 5.



6.2.4 Sub -menu END HEIGHT

Enter the height of liquid from which the compartment is considered as empty (mm).



6.2.5 Sub -menu TIMINGS

This menu allows setting the duration parameters:

INPUT PUSE TIMING: Set the increment of air admission to bypass. Integer number of 32 ms, ranging between 1 and 9.

DEPRESS PUSE TIMING: Set the increment of air exhaust to bypass. Integer number of 32 ms, ranging between 1 and 9.

MANIFOLD FILLING: Set the manifold filling duration (in seconds). Minimal value: 20 seconds. Maximal value: 59 seconds. Default value: 30 seconds.

MANIFOLD DRAINING: Set the manifold draining duration (in seconds). Minimal value: 20 seconds. Maximal value: 59 seconds. Default value: 30 seconds.

WET PROBE: Set the maximum duration before the end-of-counting probe becomes wet (in seconds). Minimal value: 20 seconds. Maximal value: 99 seconds. Default value: 20 seconds

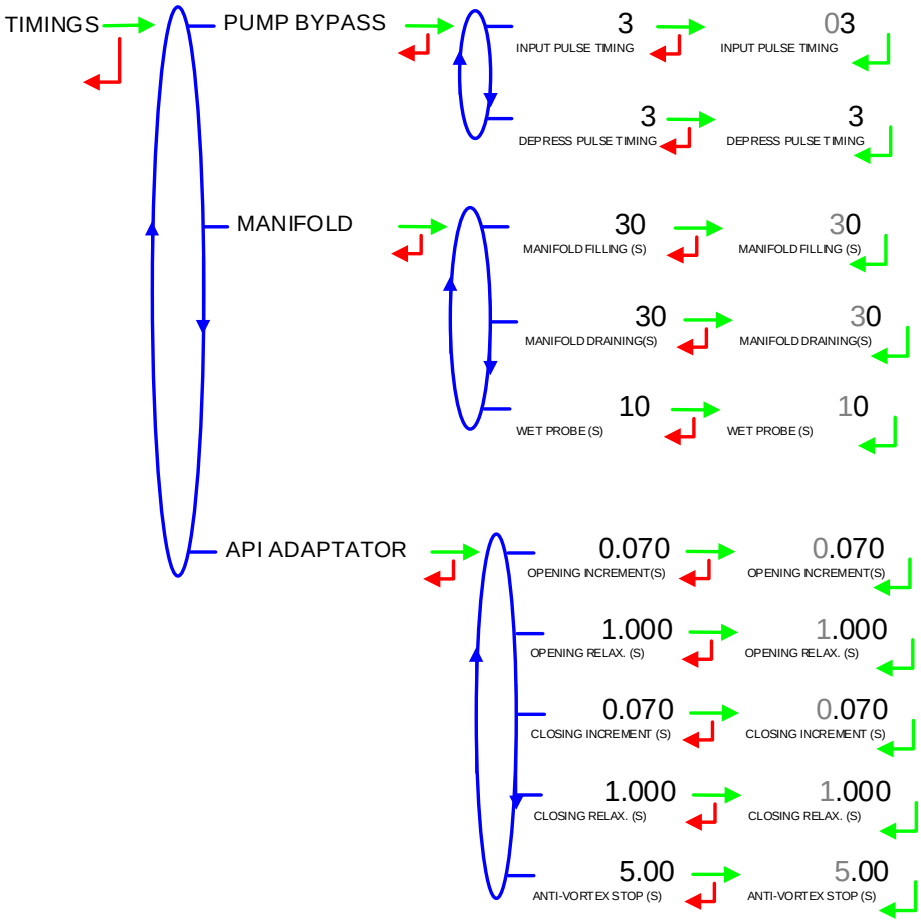
OPENING INCREMENT: Set the command increment duration of the API adapter opening valve (in seconds). Minimal value: 0.03 second. Maximal value: 3.999 seconds. Default value: 0.070 second (70 millisecondes).

OPENING RELAX.: Set the relaxation duration between two API adapter opening command increments (in seconds). Maximal value: 3.999 seconds. Default value: 1 second. .

CLOSING INCREMENT: Set the command increment duration of the API adapter closing valve (in seconds). Maximal value: 3.999 seconds. Default value: 0.070 second (70 millisecondes).

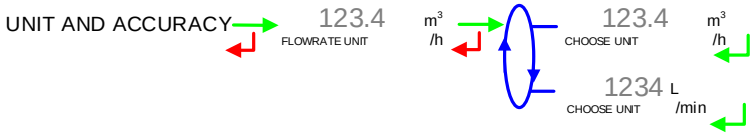
CLOSING RELAX.: Set the relaxation duration between two API adapter closing command increments (in seconds). Maximal value: 3.999 seconds. Default value: 1 second.

ANTI-VORTEX STOP: Set the API adapter closing duration after an ANTI-VORTEX breakdown. Minimal value: 5 seconds. Maximal value: 99 seconds. Default value: 5 seconds.

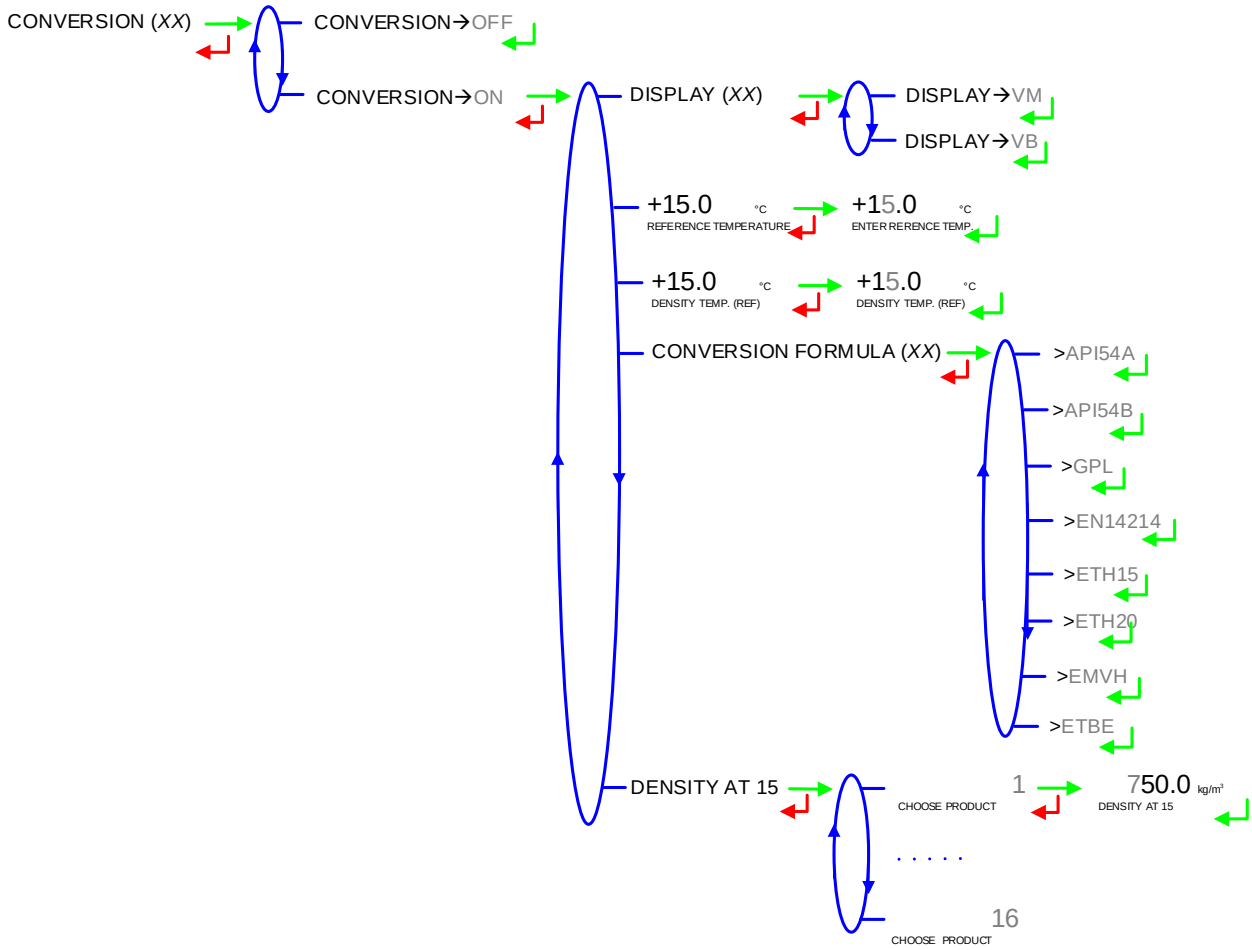


6.2.6 Sub -menu UNIT AND ACCURACY

Choose the unit of the flow rate that will be displayed and printed.



6.2.7 Sub -menu CONVERSION

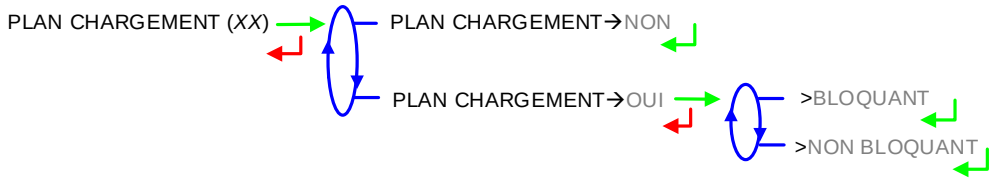


6.2.8 Sub -menu LOADING PLAN

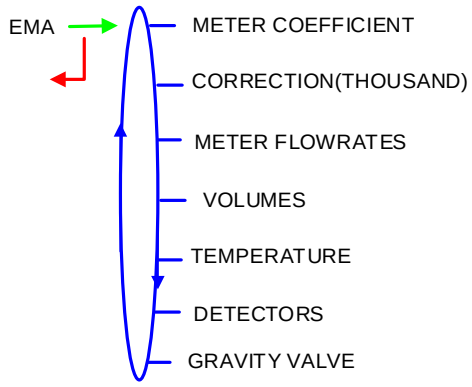
Operation with or without loading plan.

LOADING PLAN→ON**:** When the function is active, a specific menu allows the user to determine the product quality for each compartment.

BLOCKING: When a compartment is empty, it won't be available for a delivery until the user enters a new product quality via the menu LOADING PLAN of the driver mode.



6.3 Menu measuring system EMA



6.3.1 Sub -menu METER COEFFICIENT

Set the coefficient of the measuring system meter (pulses/liter).

For pumped delivery, set the four following items:

LF COEFFICIENT (K1): Coefficient for low flow (pulses/liter)

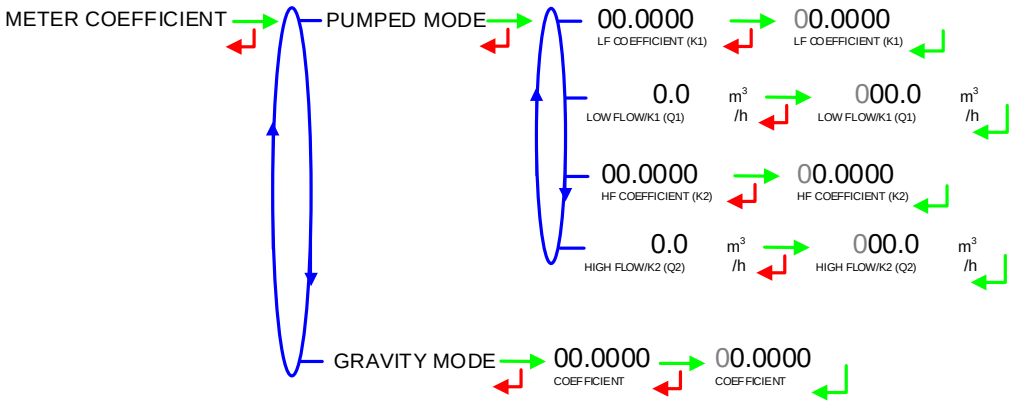
LOW FLOWRATE/K1 (Q1): Low flow reference (m^3/h)

HF COEFFICIENT (K2): Coefficient for high flow (pulses/liter)

HIGH FLOWRATE /K2 (Q2): High flow reference (m^3/h)

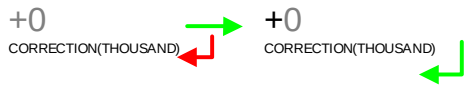
For gravity delivery, set the following item:

COEFFICIENT: coefficient of the measuring system meter (pulses/liter)



6.3.2 Sub -menu CORRECTION

Set the correction factor per thousand (‰) of the measuring system for a measurement with high viscosity products.

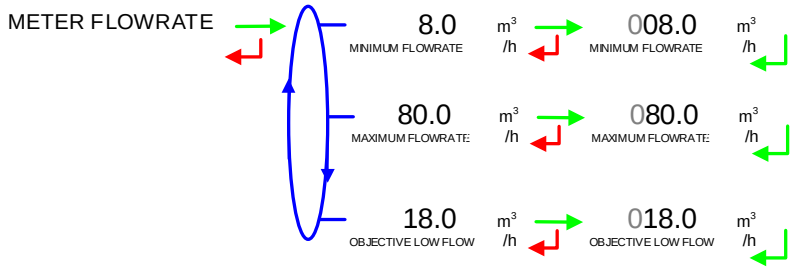


6.3.3 Sub -menu METER FLOWRATES

MINIMUM FLOWRATE: Set the metrological minimum flowrate of the measuring system.

MAXIMUM FLOWRATE: Set the metrological maximum flowrate of the measuring system.

OBJECTIVE FLOWRATE: Set the objective flowrate. In low flow phases, a regulation will be done around this value with a tolerance of ±3m³/h. This value increased by 3 must be less than the maximum flowrate.

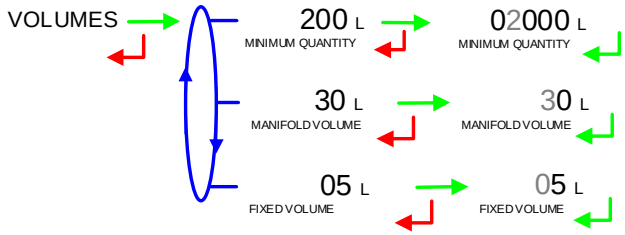


6.3.4 Sub -menu VOLUMES

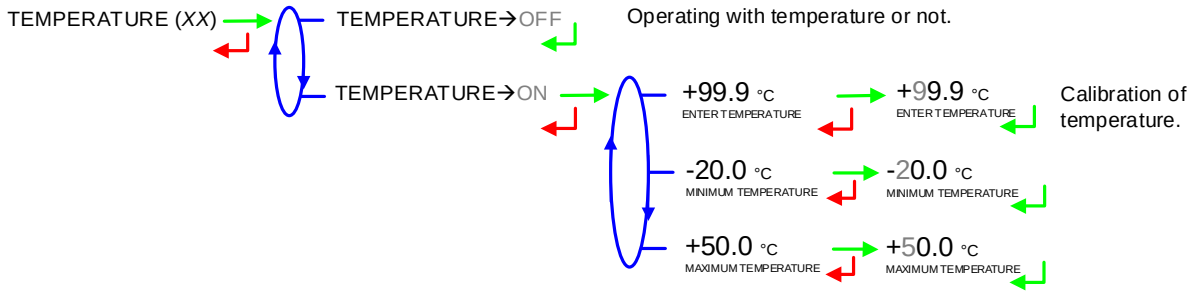
MINIMUM QUANTITY: Set, in liters, the minimum measured quantity of the measuring system to guaranty the measurement (authorized volume).

MANIFOLD VOLUME: Set the volume of the manifold in liters (depends on the compartments number).

FIXED VOLUME: Set the end of counting fixed volume of the measuring system in liters.

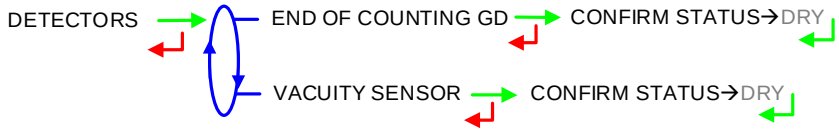


6.3.5 Sub -menu TEMPERATURE



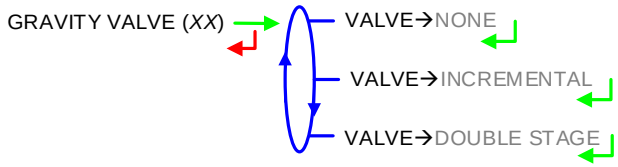
6.3.6 Sub -menu DETECTORS

Detectors must be dry before validating the 'dry' status.



6.3.7 Sub -menu GRAVITY VALVE

The type of the gravity valve use dis defined here. If the number of distribution ways set in the menu CONFIGURATION>HYDRAULIC>DISTRIBUTION WAYS is higher than 2, the gravity valve cannot be used.

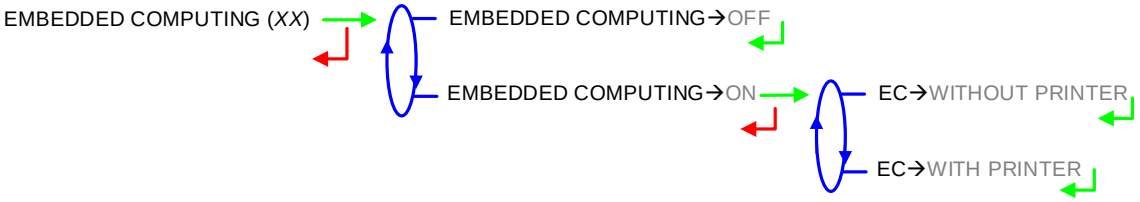


6.4 Menu EMBEDDED COMPUTING

Operation with or without embedded computing.

EC→WITHOUT PRINTER**:** the delivery ticket and the invoice can be printed via the MICROCOMPT+ device

EC→WITH PRINTER**:** the delivery ticket and the invoice cannot be printed via the MICROCOMPT+ device. They must be printed via the embedded computing.



6.5 Menu DATE AND TIME

Enter the day, the month and the year and then enter the time.

e.g. 14.41 means 2.41 pm

ANNEXE

SUMMARY:

GRAVITRONIQUE 4035.01
Version 01.00.00 du 17/09/14
Printed on the 06/10/14 at 17h20
Vehicle : AA-000-AA
Indicator : 03000

Summary
of measurements: 07/10/14
Jour 280 004 memorised results

**** DAILY TOTALISERS ****

FOD	(01) :	00006928 L	+14.9°C
FOD+	(02) :	00000000 L	+ 0.0°C
GO	(03) :	00001099 L	+14.9°C
GO+	(04) :	00001099 L	+14.9°C
GNR	(05) :	00000000 L	+ 0.0°C
GNR+	(06) :	00000000 L	+ 0.0°C

Total from 1 to 6 : 0009126 L +14.9°C

********** SUMMARY **********

Hre start	Hre end	No. Mesur	Prod	(L) Vm	(°C) Temp
14H19	14H36	D01	GO+	00999	+14.9

...

Pre(S)et; (F)ree; (R)elease;
(P)urge; (T)rans;
(A)nticipatory purge.

PARAMETERS :

GRAVITRONIQUE 4035.01
Version 01.00.00 du 17/09/14
Printed on the 06/10/14 at 17h20
Vehicle : AA-000-AA
Indicator : 03000

********** PARAMETERS **********

Outlets/valve : F1P-F2P
RC Option : ON
Automatic transmission : continue
Overfill probe : external
Flap/Return/Probes

No. CPT:	1	2	3	4	5
Flap :	O	O	O	N	N
Return :	O	O	O	N	N
Probe :	O	N	O	N	N
Ht LF :	700	700	700	700	700

TPSIA: 3UT / TPSID: 3UT
Opening increment : 0.070 s
Opening relax. : 1.000 s
Closing increment : 0.070 s
Closing relax. : 1.000 s
Anti-VORTEXstop : 5.00 s
Manifold filling : 30 s
Manifold draining : 11s
Wet probe : +0
Petrol via pump : OFF
Tank overfill protec. : OFF
Loading plan :ON / Blocking: OFF
Conversion : OUI
Indicator : VM
Reference temperature : +15.0
Density temp (REF) : +15.0
Conversion formula : 54B

Product No.	MV15 (kg/m3)
1	750.0
2	750.0

...
Embedded computing : OFF
Ticket : OFF
EM1
...

TOTALISERS:

```
GRAVITRONIQUE 4035.01
Version 01.00.00 du 17/09/14
Printed on the 06/10/14 at 18h36
Vehicle   :  AA-000-AA
Indicator :  03000

********** TOTALISERS **********

General totaliserl 1:            00012123  L

FOD       (01) :      00006928 L
FOD+      (02) :      00002997 L
GO        (03) :      00001099 L
GO+       (04) :      00001099 L
GNR       (05) :      00000000 L
GNR+      (06) :      00000000 L
...
Total from 1 to 16 :0012123 L
```

EVENTS RECORDED:

```
GRAVITRONIQUE 4035.01
Version 01.00.00 du 17/09/14
Printed on the 06/10/14 at 18h12
Vehicle   :  AA-000-AA
Indicator :  03000



41 recording(s)

14:49:55 No allocated product
14:49:53 Pollution flexible
14:30:03 Stop operation
14:24:33 High flow default
...


09:47:15 Reset application
09:47:06 Memory lost
09:42:57 Watchdog default
09:12:36 Driver mode
08:59:02 Supervisor mode
08:58:57 Switch on
```

DELIVERY TICKET:

```
GRAVITRONIQUE 4035.01
Version 01.00.00 du 17/09/14
Printed on the 06/10/14 at 17h20
Vehicle   :  AA-000-AA
Indicator :  03000

********** DELIVERY **********

Delivery n001

Compartment       :  1
Product           :  FOD
Measurement n 1   :  01999 liters
Measurement n 2   :  00633 liters
Measurement n 3   :  01100 liters
                     ----------
Total Cpt 1       :  03732 liters
```

RELATED DOCUMENTS

GU 7071	User Guide
MV 5007	Verification Guide
FM 8000	Replacement of the backup batteries on the AFSEC and AFSEC+ electronic board
FM 8001	Diagnostic support for power supply failure
FM 8002	Diagnostic support for a display failure
FM 8003	Diagnostic support for DEB_0 or ZERO FLOW DEFAULT alarm
FM 8004	Diagnostic support for GAS or PRESENCE GAS alarm
FM 8005	Diagnostic support for METERING PROBLEM alarm
FM 8007	Diagnostic support for MEMORY LOST or DEF MEMO alarm
FM 8008	Diagnostic support for a DATE alarm
FM 8010	Diagnostic support for EEPROM MEMORY LOST alarm
FM 8011	Configuration of jumpers and adjustment of metering thresholds on the AFSEC+ electronic board
FM 8510	Adjustment of a temperature chain in a MICROCOMPT+