



Fire-fighting



SALAMANDRE Range

USER MANUAL

SALAMANDRE 180



Version 2
29/03/16

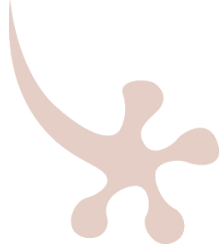


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Performances

THE PERFORMANCE OF SALAMANDRE MOTOR PUMPS

depends on the following criteria:

1 - The **"MINIMUM"** flow range (in litres/minute) is defined by the minimum flow required to ensure that regulation is stable.

2 - The **"MAXIMUM"** flow ranges are given according to:

- Truck' water pump performance
- The possibilities for transit in supply pipes of \varnothing 100 - 125 - 150.
- The **"MAXIMUM"** SALAMANDRE volumetric pump performances.

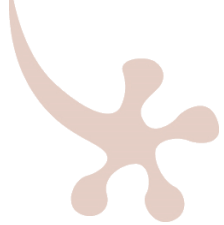
SALAMANDRE 180

Type of concentration keys		1 %	2 %	3 %	4 %	5 %	6 %
Pre-mix outlet Flow rate	Minimum	1200	600	400	400	400	400
	Max DN 125	8000	8000	6000	4500	3600	3000

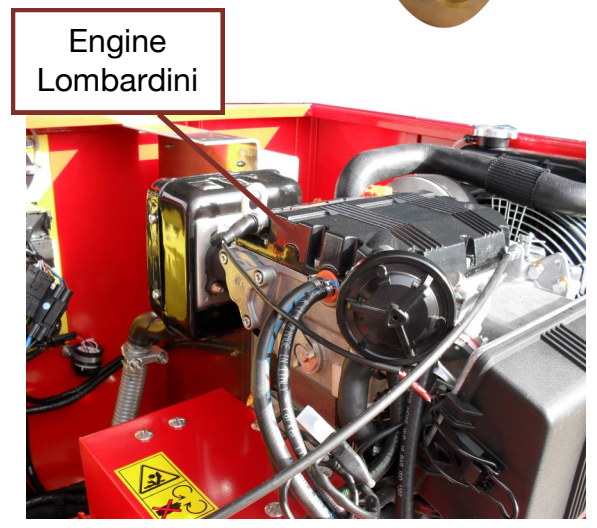
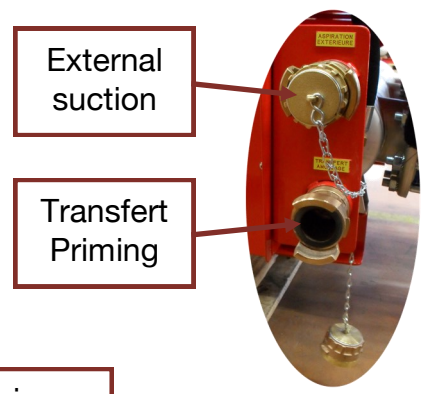
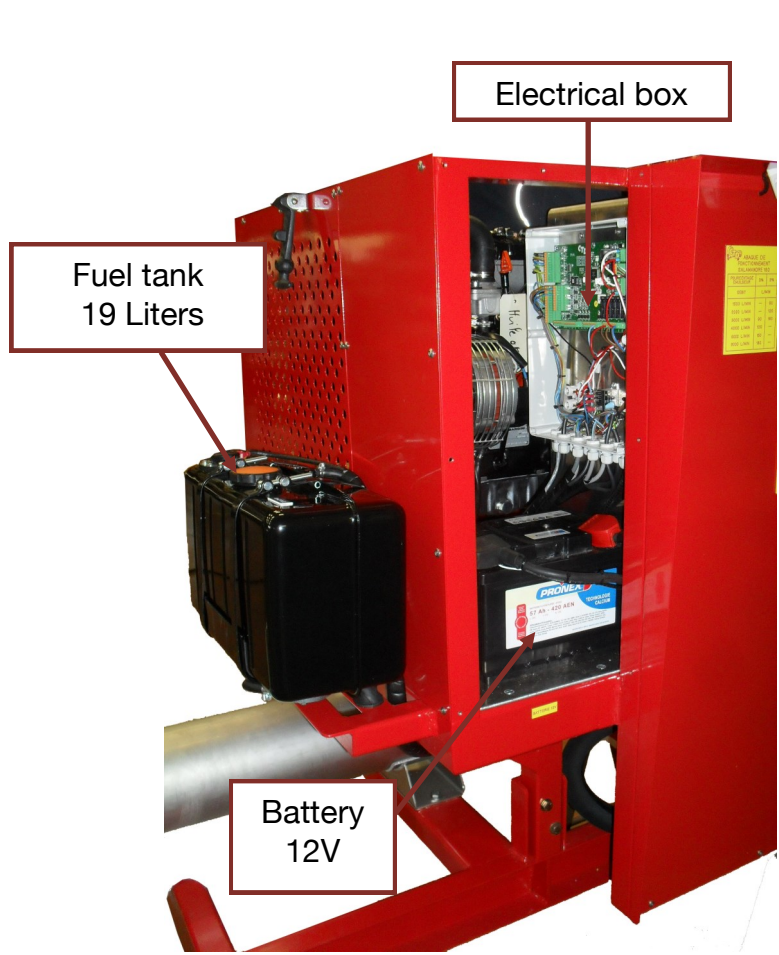
PRESENTATION



OF THE SALAMANDRE



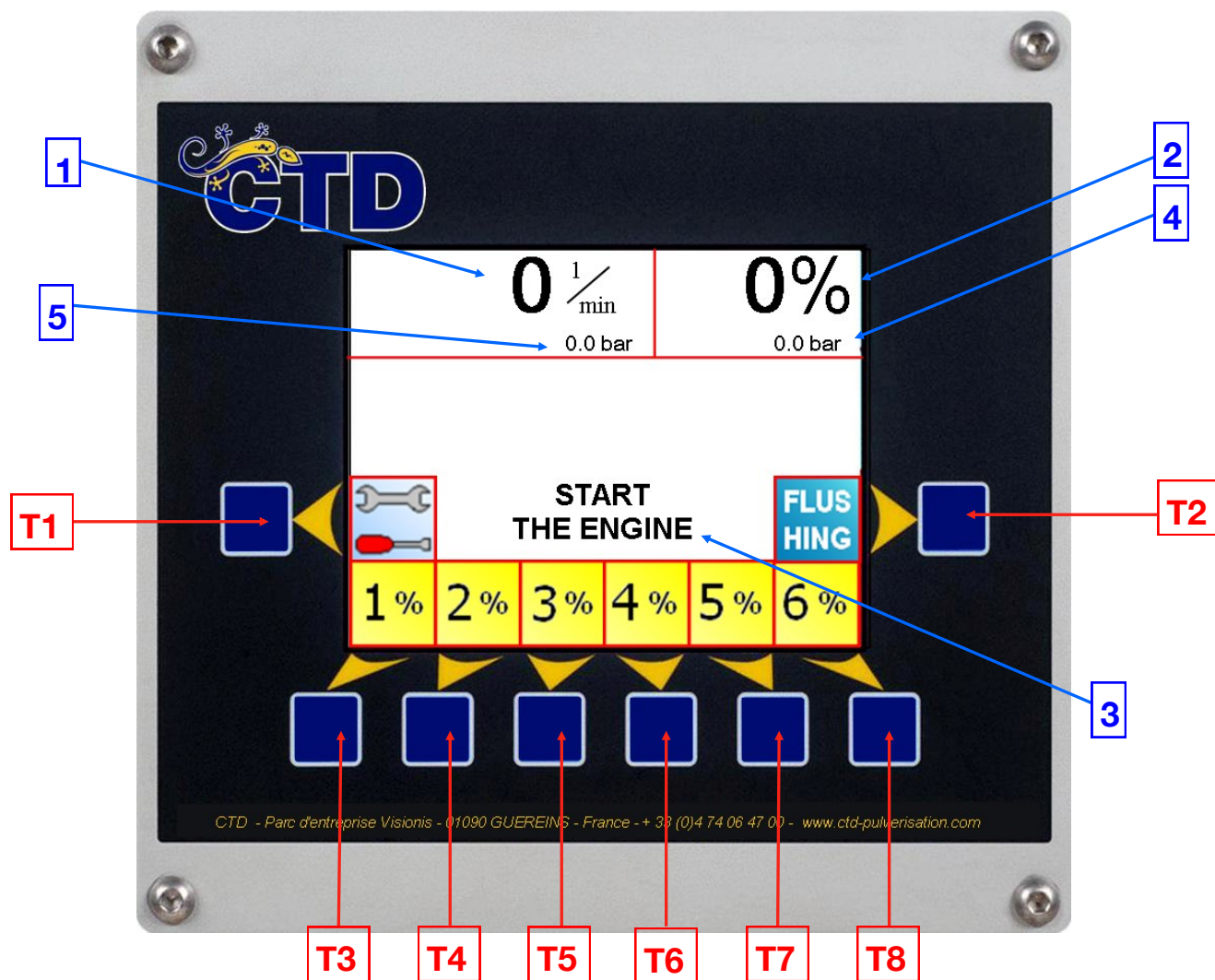
Presentation of the SALAMANDRE 180



Presentation of the control board



Presentation of the dosing screen



KEYS FOR STARTING UP AND USING THE UNIT

T1 Key to access the maintenance screen

T2 External suction key

T3 à T8 Intervention selection keys (Automatic selection of concentration)

DATA DISPLAY

1 Flow in Liters/minute

2 Concentration in%

3 Intervention information

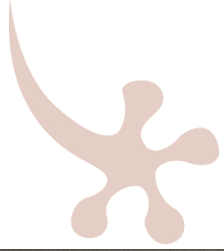
4 Injection pressure

5 Water pressure

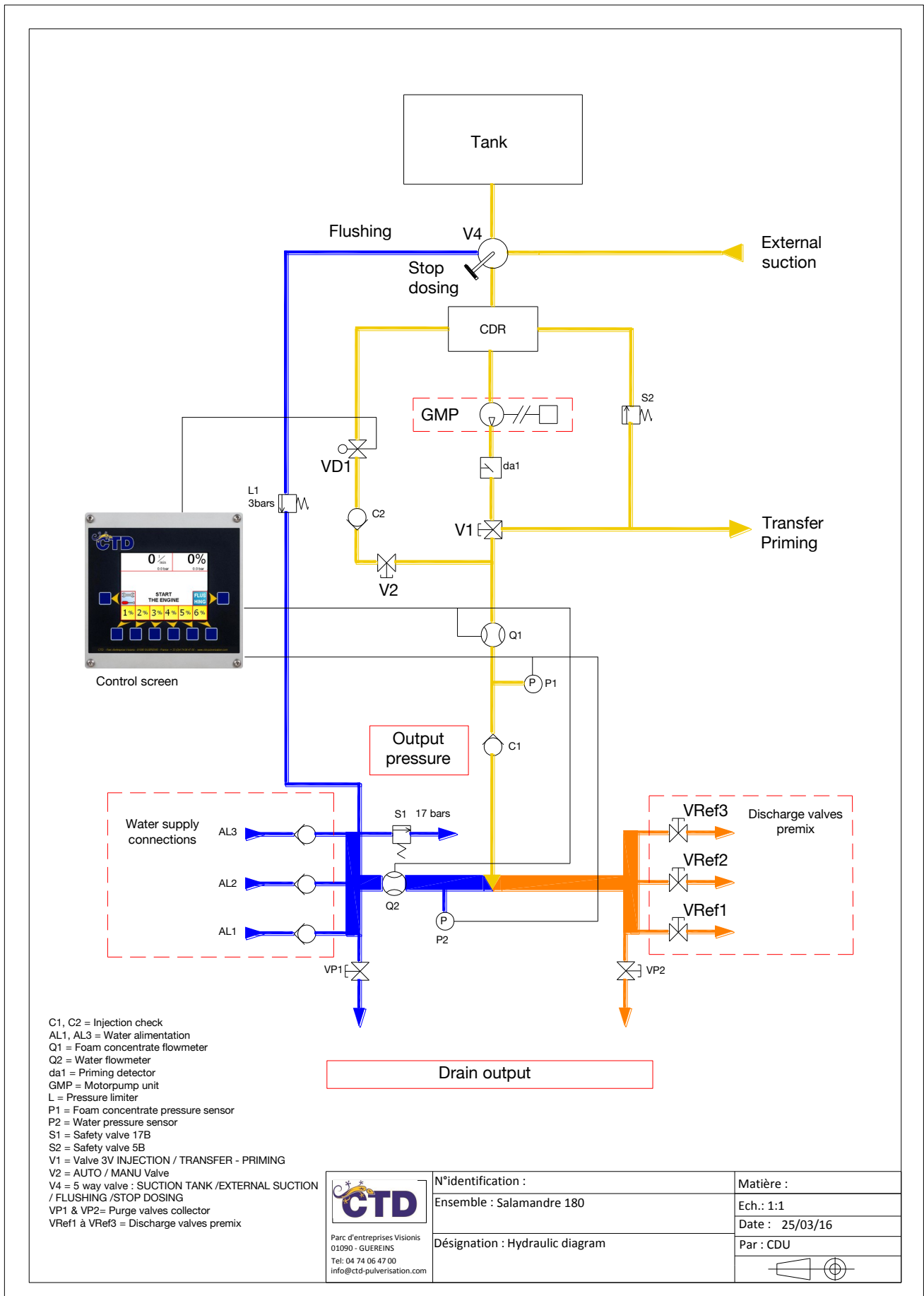
HYDRAULIC



DIAGRAM



Hydraulic diagram



N°identification :	
Ensemble : Salamandre 180	
Désignation : Hydraulic diagram	

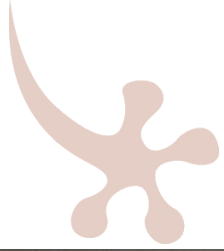
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Ech. : 1:1	
Date : 25/03/16	
Par : CDU	



PROCEDURE

OF USE

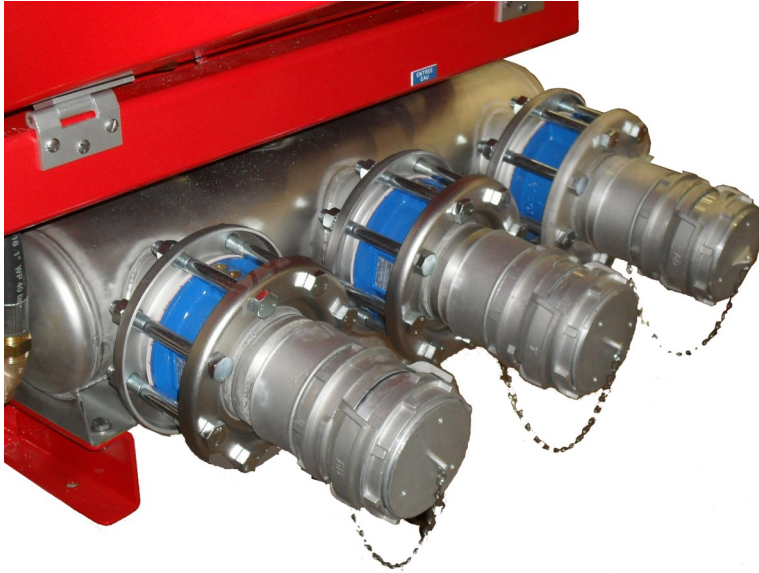




Procedure of use

1 – WATER SUPPLY :

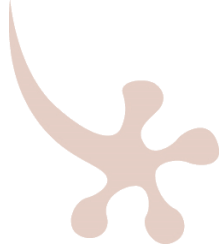
- Supplying water to the collector.



2 – POWER :

- Turn the battery switch **[1]** a quarter turn.
- The light power **[2]** lights..
- The voltmeter indicates the battery voltage **[3]** .
- The screen is started automatically **[4]** .





Procedure of use

3 – CHOICE OF SUCTION :

- The screen displays « select a suction » as long as the valve is in position « Stop dosing ».
- Switch the valve **V4** either on the suction valve either on the external suction.

NOTE : The engine can not start as long as the valve **V4** is in position « stop dosing ».



4 – STARTING THE ENGINE :

- Start the engine :

Turn the key one notch

Wait a few seconds (warm)

Turn a second notch to start the engine

Release the key when the engine is running



- Accelerate the engine to bottom

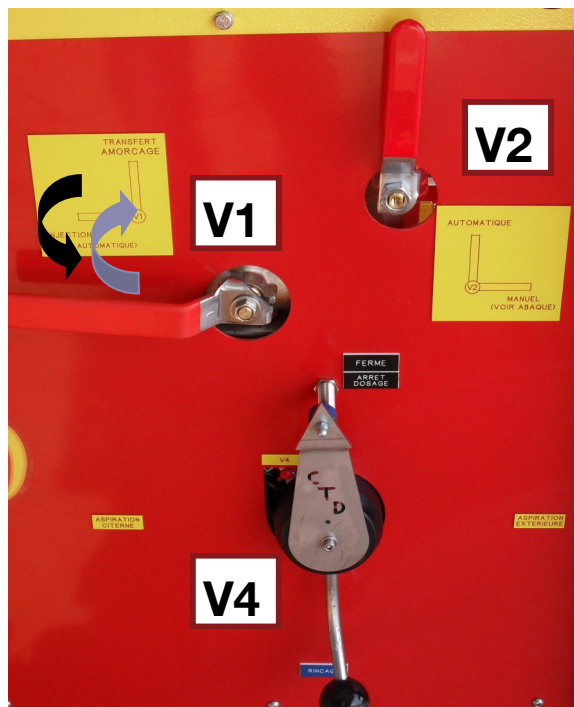


NOTE : The screen says "speed up the engine thoroughly" as it has not reached full speed.

Procedure of use

5 – PRIMING :

- Switch the valve **V1** in position « **TRANSFER - PRIMING** ».
- When the liquid runs out under the Salamandre, the priming is finished.
- Switch back the valve **V1** in position « **INJECTION** ».



- The system is now ready to dose.

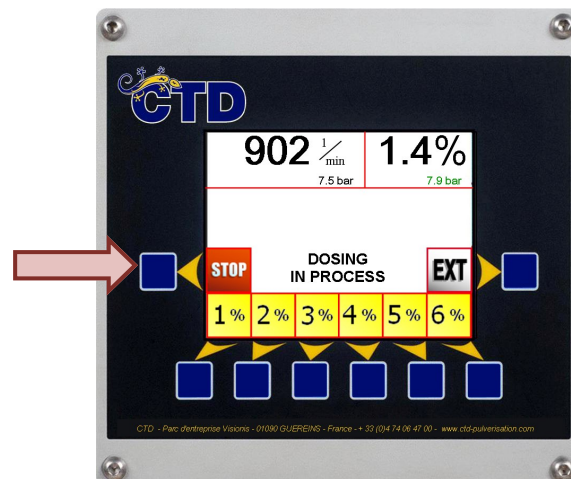
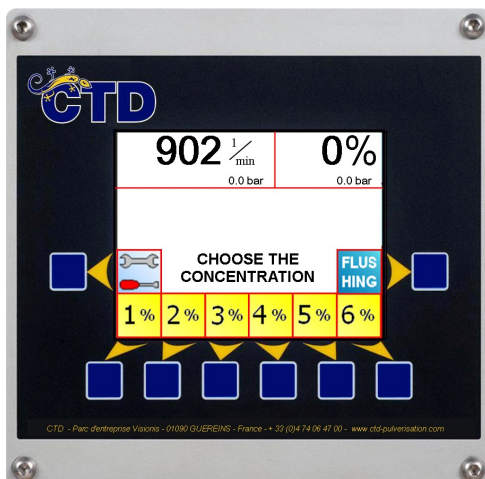
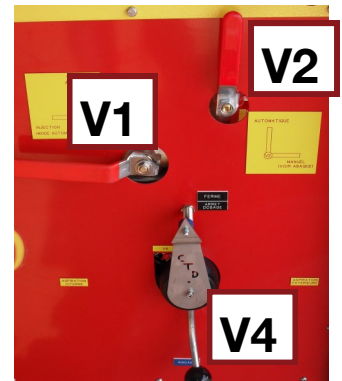
NOTE : The screen says « think to priming » until the operation was not realised. A beep will sound to alert the user.

If the Salamandre is not priming within 30 seconds after starting the engine it stops to prevent the pump from running dry.

Procedure of use

6 – SUCTION TANK :

- Switch the valve **V4** in position « SUCTION TANK ».
- Check that the valve **V2** is in position « AUTOMATIC ».
- Check that the valve **V1** is in position « INJECTION ».
- Open the output pre-mixtures of the collector.
- A flow is displayed on the screen .
- Select a concentration for starting the dosage.

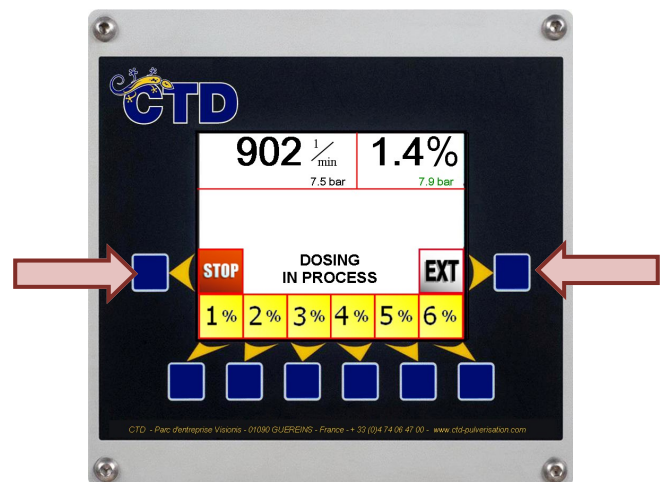
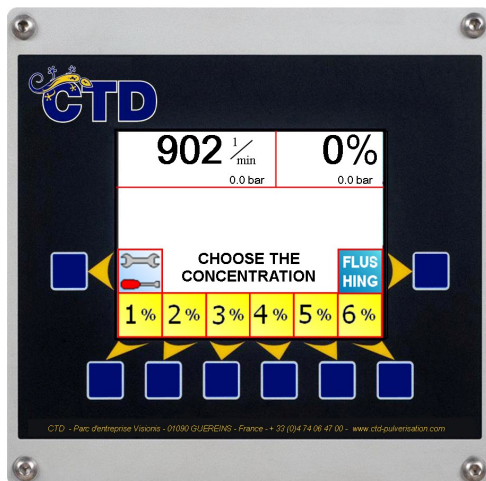


- Dosage begins if the flow rate is greater than 100 L/min
- The screen display « flow rate is too weak » if the ratio water flow rate / foam concentrate flow rate is less than the minimum performance of the dosage system (15 L/min of foam concentrate).
- The screen display « flow rate is too strong » if the ratio water flow rate / foam concentrate flow rate is strong that the maximum performance of the dosage system (180 L/min of foam concentrate).
- At any time, if the system beeps, a fault is detected and displayed :
- « Think to priming » : the pump is defused. Carry out the procedure of priming again.
- « Default injection » : the injection pressure remained below the water pressure for more than 25 seconds. Try again dosed. If the problem persists, contact the SAV.
- To stop the dosage press « **STOP** ».

Procedure of use

7 – EXTERNAL SUCTION :

- Connect a suction pipe on the external suction connector.
- Place the valve **V4** in position « **EXTERNAL SUCTION** ».
- Check that the valve **V2** is in position « **AUTOMATIC** ».
- Check that the valve **V1** is in position « **INJECTION** ».
- Open the output pre-mixtures of the collector.
- Un débit s'affiche sur l'écran
- Sélectionner une concentration pour commencer le dosage.

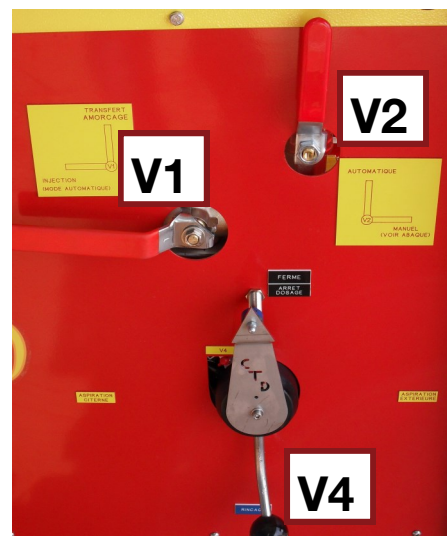
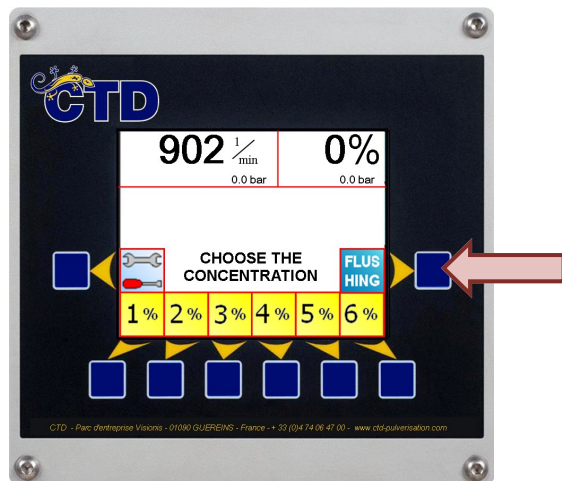


- Press the button « **EXT** » (icon becomes green). This action differentiates the source of suction in the newspaper interventions.
- Dosage begins if the flow rate is greater than 100l/min
- The screen display « flow rate is too weak » if the ratio water flow rate / foam concentrate flow rate is less than the minimum performance of the dosage system (15 L/min of foam concentrate).
- The screen display « flow rate is too strong » if the ratio water flow rate / foam concentrate flow rate is strong that the maximum performance of the dosage system (180 L/min of foam concentrate).
- At any time, if the system beeps, a fault is detected and displayed :
- « Think to priming » : the pump is defused. Carry out the procedure of priming again.
- « Default injection » : the injection pressure remained below the water pressure for more than 25 seconds. Try again dosed. If the problem persists, contact the SAV.
- If you change the source of suction, again press « **EXT** » (the icon then becomes white).
- To stop the dosage press « **STOP** ».

Procedure of use

8 – FLUSHING :

- Le boîtier affiche « pensez à rincer » jusqu'à ce que l'opération de rinçage ai été effectuée de la manière suivante :
- Switch the valve **V4** in position « **FLUSHING** ».
- Ensure that the outputs premixes are « **OPEN** ».
- Press the button « **FLUSHING** » and « **VALIDATE** »



- At any time, if the outputs premixes are closed and the water flow drops to 0, flushing is put on hold. The screen displays "water flow is too weak".
- Flushing is an automatic cycle. However, to flush the priming circuit, proceed as follows during the cycle:
- Switch the valve **V1** in position « **TRANSFER - PRIMING** » to flush the priming circuit (10 seconds is enough).
- When clean water flows under the rocks, flushing of the priming circuit is completed.
- Replace the valve **V1** in position « **INJECTION** ».

When the screen displays « **FLUSHING OK** », flushing the injection circuit is completed.

- Stop the engine.
- Switch the valve **V4** in position « **STOP DOSING** ».

Procedure of use

9 – MANUAL MODE :

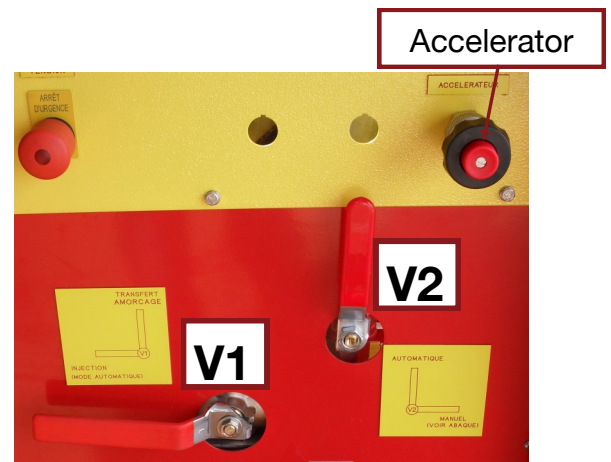
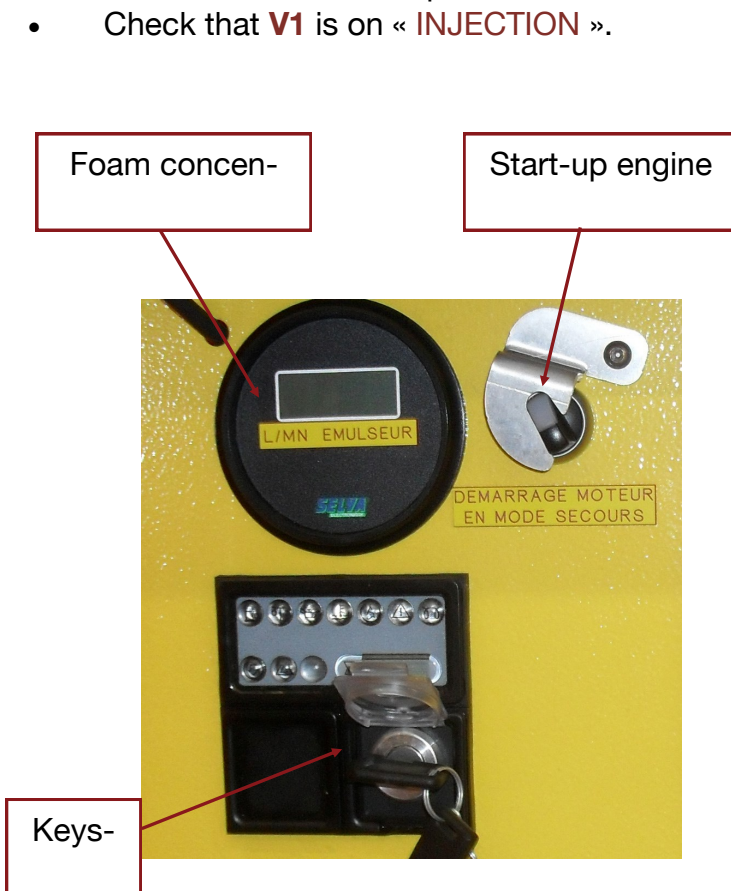
In case of malfunction of the automatic dosing, it is possible to perform the dosing in manual mode.

Adjusting the concentration is obtained as a function of engine acceleration.

The abacus is used to find the amount of foam concentrate required based on water flow.

Adjusting the amount of foam will be by motor acceleration and can be adjusted using the theoretical speed displayed.

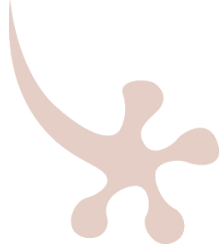
- Switch button « **ENGINE STARTING IN EMERGENCY MODE** » then start the engine with the key.
- Switch the valve **V2** in position « **MANUAL** ».
- Check that **V1** is on « **INJECTION** ».



CTDD ABAQUE DE FONCTIONNEMENT SALAMANDRE 180

POURCENTAGE EMULSEUR	3% 6%	
	DEBIT L/MIN	
1500 L/MIN	—	90
2000 L/MIN	—	120
3000 L/MIN	90	180
4000 L/MIN	120	—
5000 L/MIN	150	—
6000 L/MIN	180	—

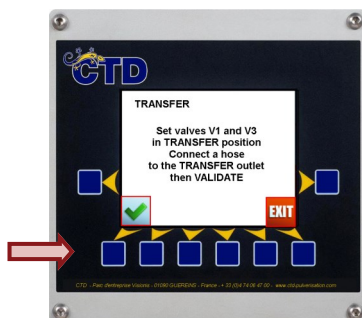
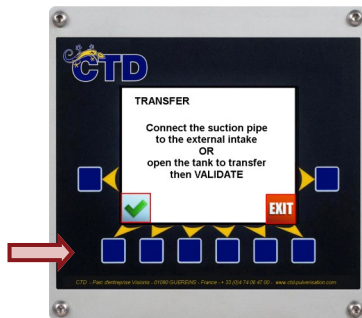
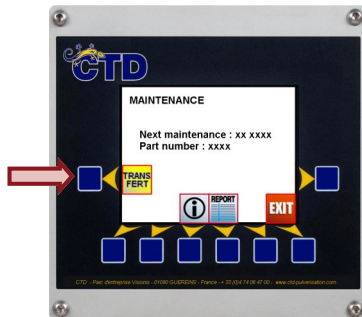
A l'aide du compte-tours et de l'abaque ci-contre, régler le régime moteur avec l'accélérateur afin d'obtenir la valeur de débit d'émulseur désirée.



Procedure of use

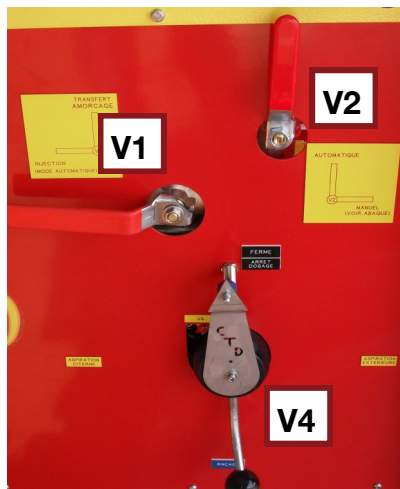
10 – TRANSFER :

Select the transfer aid available from the Maintenance screen
Key **[T1]** then press key « **TRANSFER** »



- Connect a suction hose on the output TRANSFER
- Switch the valve **V1** in position « **TRANSFER/PRIMING** »
- Switch the valve **V4** either on « **SUCTION TANK** » either on « **EXTERNAL SUCTION** »
(In the case of an « **EXTERNAL SUCTION** », connect a suction pipe to the output of the external suction).

- Then « **VALIDATE** ».



- Start the engine.

Once the transfer is complete,
Proceed with flushing in the following manner:

- Switch the valve **V4** on « **FLUSHING** »

When clean water flows out the transfer, replace the valve **V4** in position « **STOP DOSING** », the motor stops.

- Disconnect the hose between the flushing circuit and the suction used.

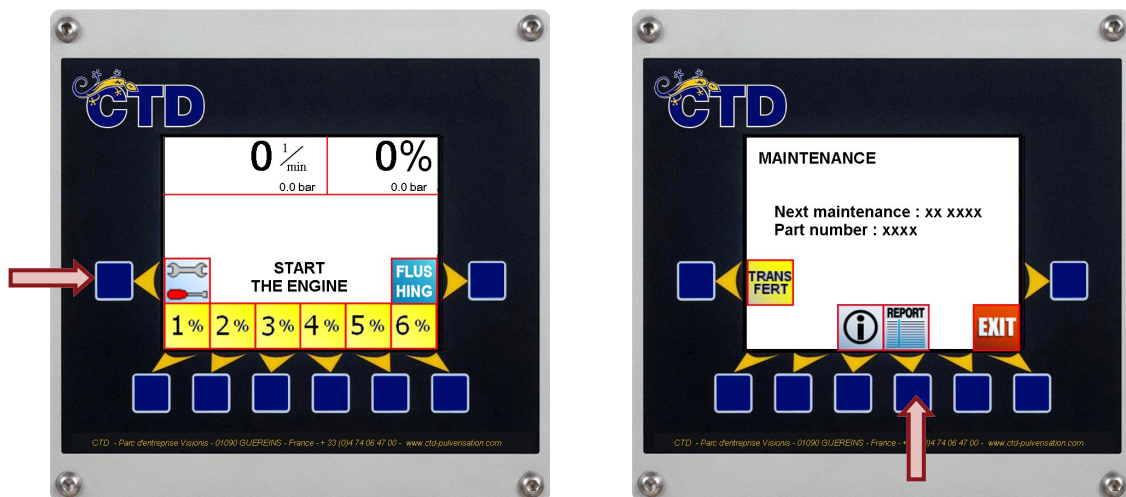
- Press the key « **EXIT** »

- Replace the valve **V1** on « **INJECTION** ».

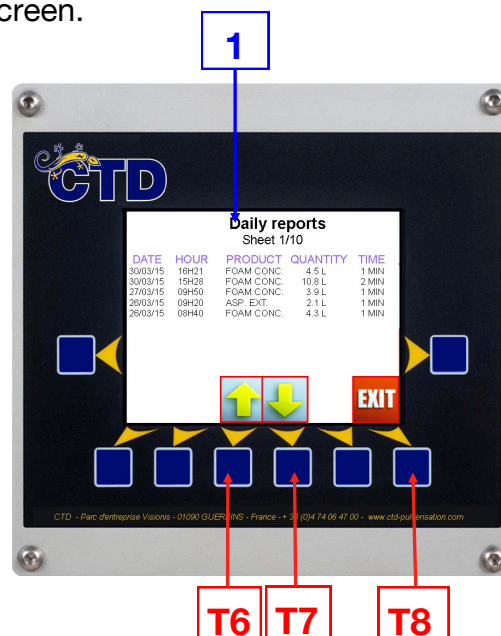
Use of the screen

11 - JOURNAL OF OPERATIONS :

- To access to the journal of operations, press the key « **MAINTENANCE** » then press the key « **REPORT** ».



- This button provides access to the historical past 120 interventions :
- Press the arrows to scroll through the pages, and the "**EXIT**" key to return to the Maintenance screen.



STARTING AND USING BUTTON

T6 Key « PREVIOUS PAGE ».

T7 Key « NEXT SUIVANTE ».

T8 Key « EXIT » = Return to the maintenance screen.

INFORMATION DISPLAY ON THE SCREEN

1 Daily information (Day - Hour - type of used additive - Quantity - Intervention time)

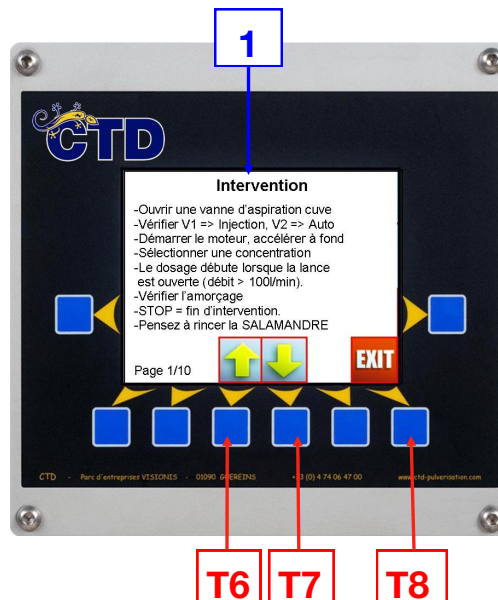
Use of the screen

12 - INFO MENU :

- To access the Info menu, press the key « MAINTENANCE » then press the key « i ».



- This button provides access to the user manual synthetic :
- Press the arrows to scroll through the pages, and the "EXIT" key to return to the Maintenance screen.



STARTING AND USING BUTTON

T6 Key « PREVIOUS PAGE ».

T7 Key « NEXT SUIVANTE ».

T8 Key « EXIT » = Return to the maintenance screen.

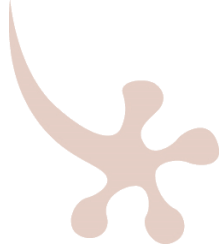
INFORMATION DISPLAY ON THE SCREEN

1 Instructions for use

MAINTENANCE



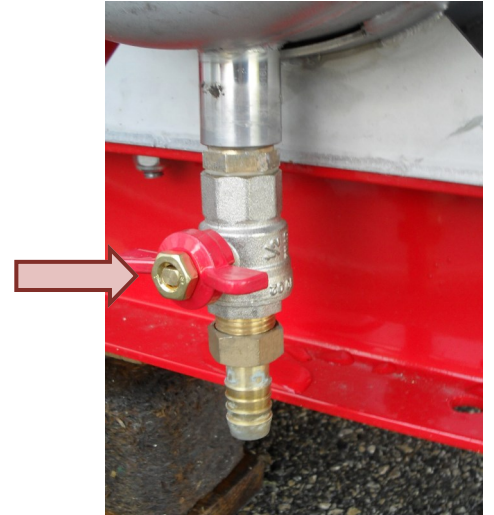
PROCEDURE



Maintenance procedure

13 - FROST (After flushing) :

- Switch the valve **V4** in position « **EXTERNAL SUCTION** ».
- Switch the valve **V1** in position « **TRANSFER - PRIMING** ».
- Start the engine.
- Expect that more water flows under the rocks.
- Turn off the engine.
- Open the valves located under the collector to purge.



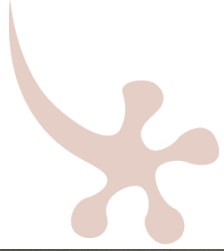
14 - WARNING :

- **Joints of pumps are leather : the system must run at least once a month to pump seals that are wetted by water, otherwise they dry, creating leaks.**
- Simplified procedure to moisten the pump: (Salamandre engine shutdown)
- Connect a water hose (maxi 5 bar) on the external suction.
- Switch the 5 way valve **V4** on « **EXTERNAL SUCTION** »
- Switch the valve **V1** on « **TRANSFER - PRIMING** ».
- Allow water to run for 5 minutes.
- Shut off the water.
- Return the valves to their initial positions.
- **V4** in position « **STOP DOSING** » and **V1** in position « **INJECTION** »
- **Never run the pump dry.**

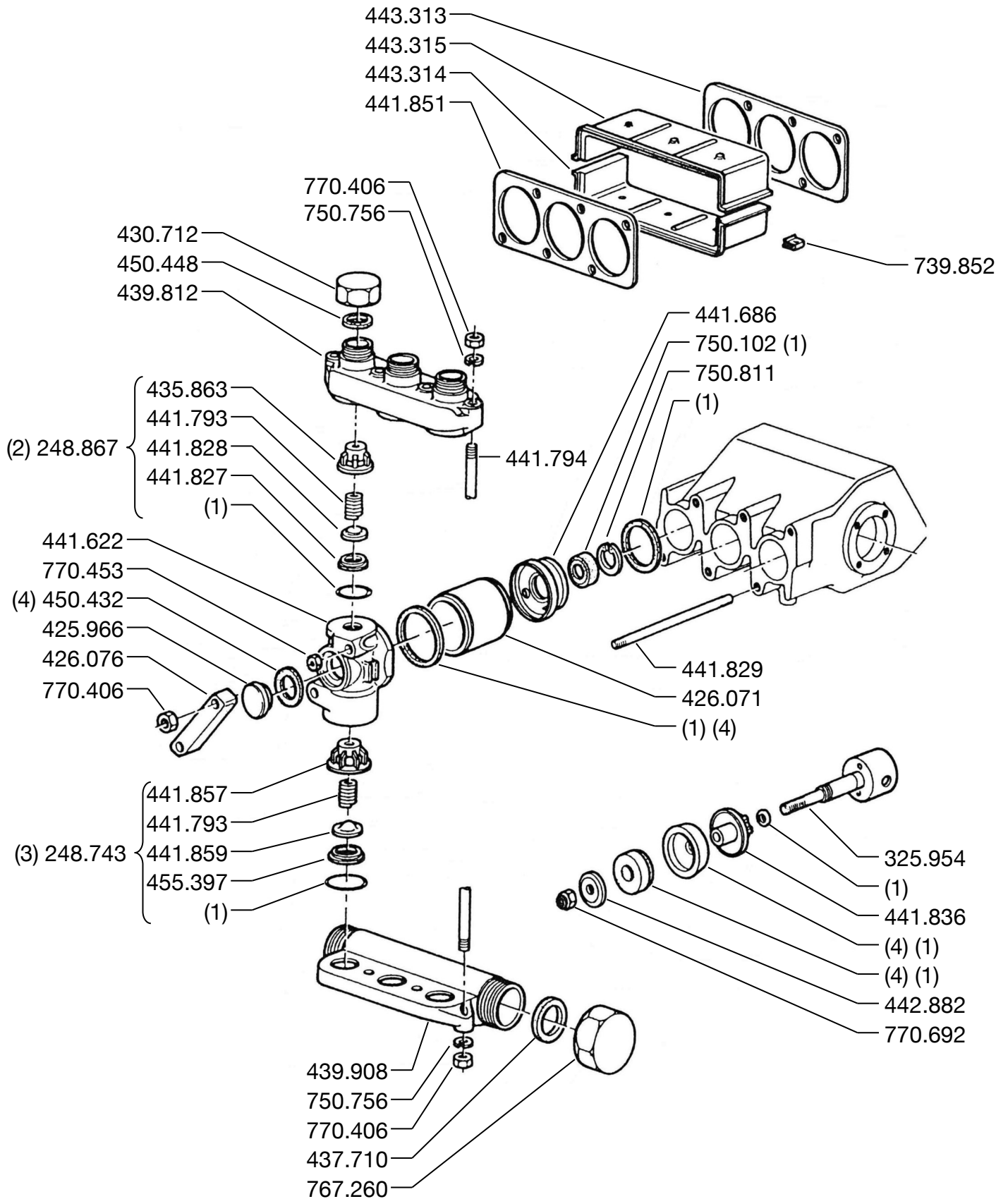


ANNEXES

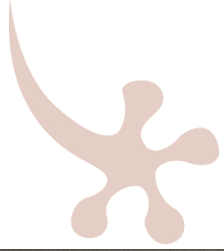




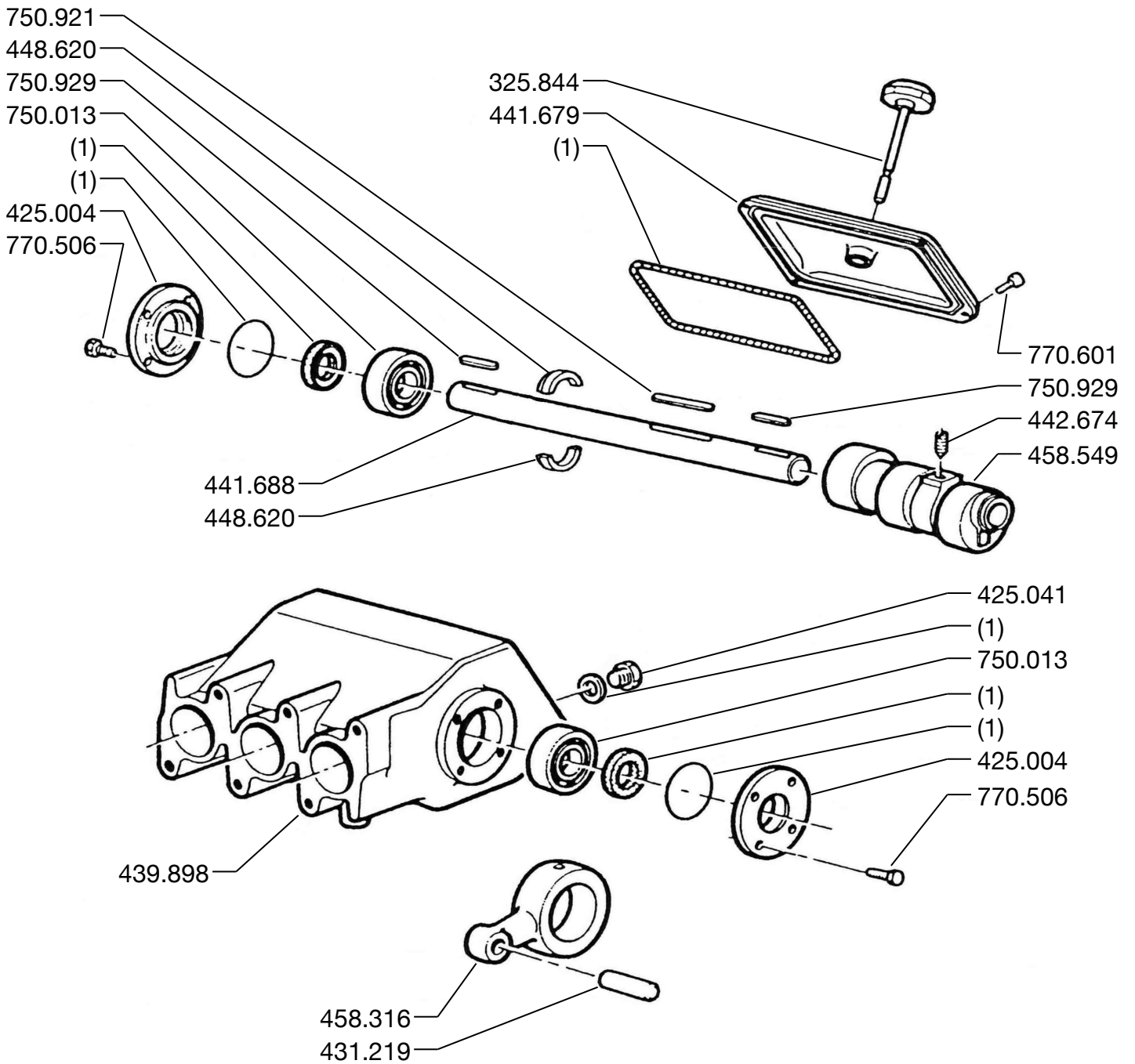
Pump GAMA 160



- (1) Parts being in the small pocket of breakdown service Ref: 248.831
- (2) Together of 3 valves of complete repression Ref: 260.891
- (3) Together of 2 suction valves complete Ref: 260.890
- (4) Together of 3 pistons leathers with ring and joint Ref: 225.297



Pump GAMA 160



(1) Small pocket of repair Ref: 248.831

Maintenance Pump GAMA 160

To control every 50 hours :

Oil levels :

- Engine

(to refer to the technical booklet of this one)

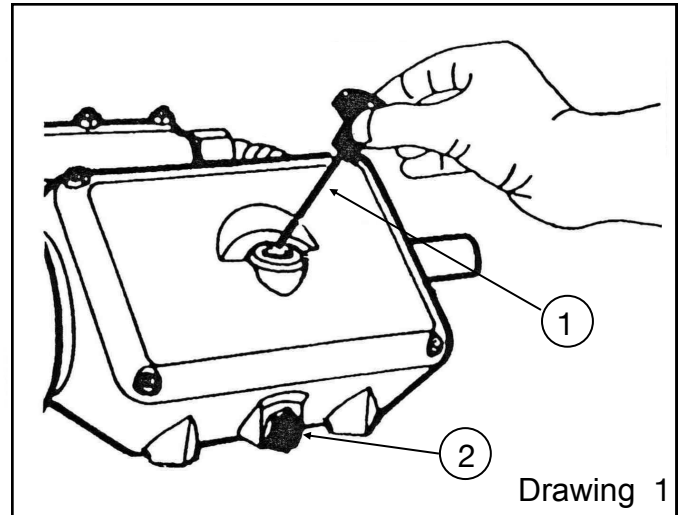
- Pump (figure 1)

To check the oil level gauge. The right level is when the oil is on the notch (1). Total draining is carried out by unscrewing the stopper (2).

OIL SPECIAL HIGH PERFORMANCE

Type F1 - Réf : 779.026 (can of 2 liters)

Quantity : 1.40 liters



Every 200 operating hours :

- To drain and replace the oil of the pump.
- To check the state of the 6 sets of valve (Rep.1 - figure 2).
 - To unscrew 4 nuts (2).
 - To remove the aspiration's collector (3).
 - To remove the pression's collector (4) and these 4 tirans.
 - To dismount the 6 sets of valve (1), to clean with the gasoline, and to oil lightly before the reassembly.
 - To reassembly the unit.

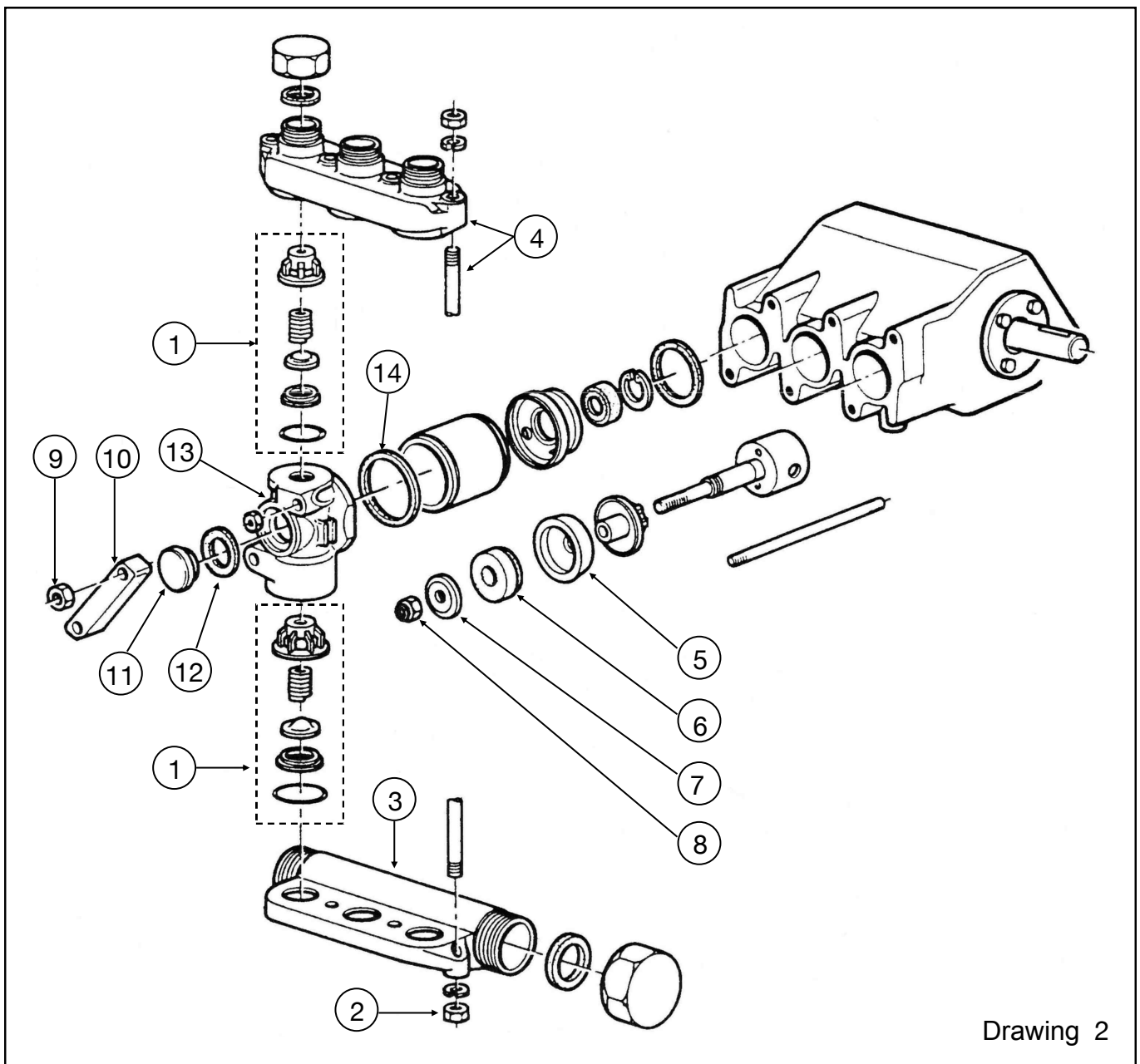
Every 50 operating hours :

- To tighten the cups of pistons by compressing the rings of extension (6) with the nuts nyl-stop (8). For that :
 - Unscrew the nuts (9).
 - To remove the 3 bars (10).
 - To remove the 3 stoppers and seal (11).
 - To tighten moderately with a tube wrench of 19 millimetre.

Every 200 operating hours :

- To check the wear of the cups of piston (5) and them rings (6) :
 - Unscrew the 6 nuts (9).
 - To remove the 3 bars (10).
 - To remove the 3 stoppers and seals (11) and (12) as well as the 3 cylinders heads (13).
 - Unscrew the nuts (8).
 - To remove the 3 discs (7), the 3 cuts (5) and the rings of expansions (6).
 - To change the defective parts if it's necessary.
 - To reassembly the unit after changing the 3 seals nylon (13) between cylinders head and cylinder.

Maintenance Pump GAMA 160



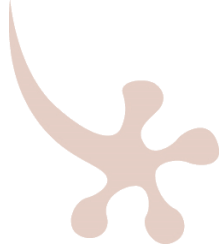
Drawing 2

FOOT NOTE :

If you don't use the pump during few weeks, you could see some liquid get out of the pump. But this thing must stop after a few minute. If it persists, to tighten the cups of piston.

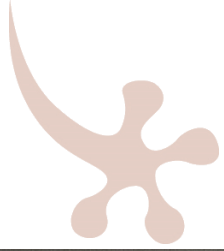
PROTECTION AGAINST FREEZING :

To turn pump 2 or 3 minutes to vacuum and purge.

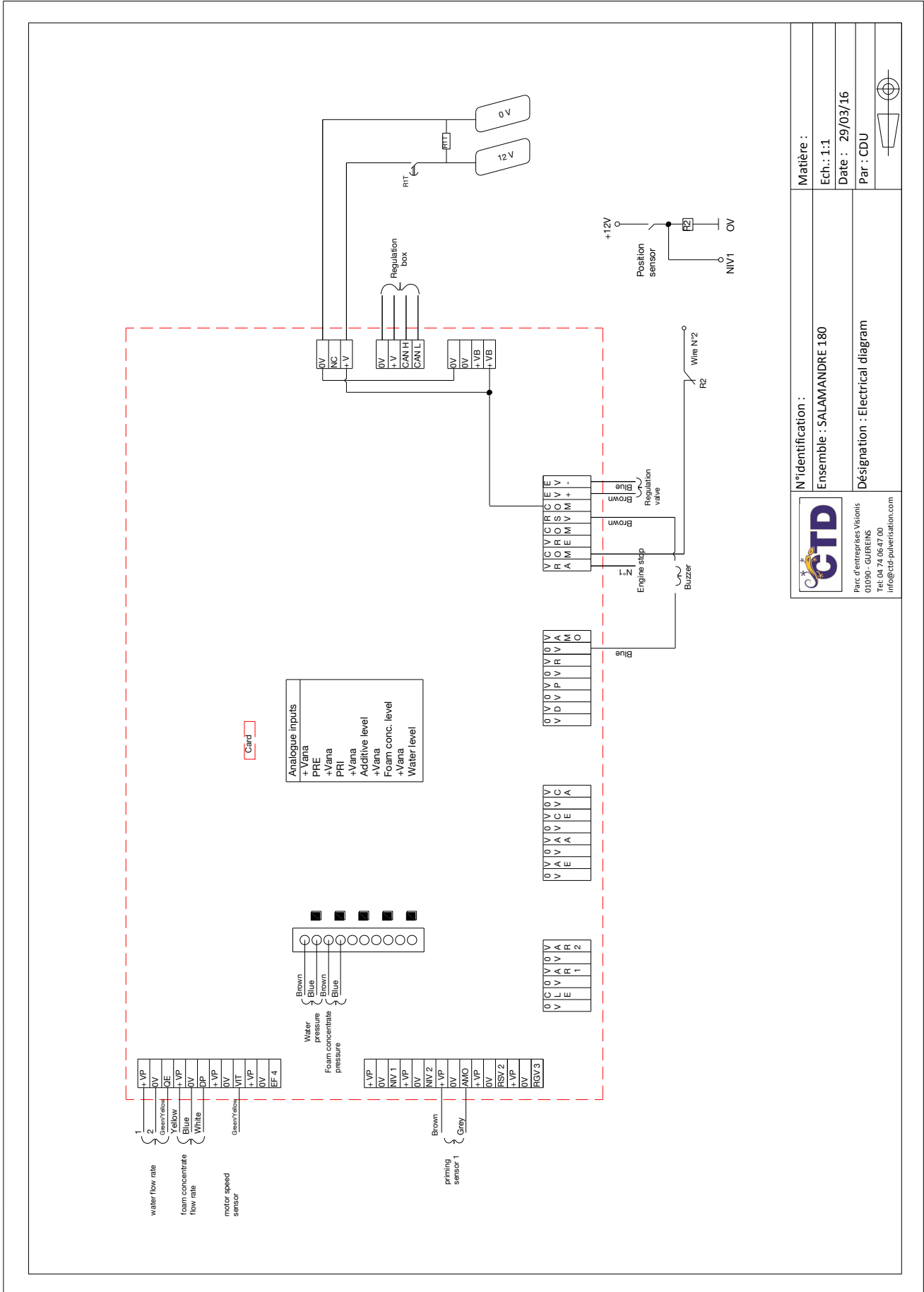



Spare parts

DESIGNATION	QUANTITY	REFERENCE
MOTOR 15CV	1	LOM-LDW702FOCS
+ FUEL TANK 19L	1	
PUMP GAMA 160	1	220313
COUPLING PLATE HRC110 F1610	4	Z410130
HUB TL1610 Ø25.4 HRC 110/130	1	Z410148
HUB TL1610 Ø30 HRC 110/130	1	Z410150
HUBTL1610 Ø35 HRC 110/130	1	Z410152
HUB TL1610 Ø40 HRC 110/130	1	Z410154
ELASTIC ELEMENTS HRC 100/110	2	Z410135
SILENT BLOCKS	4	Z410005
BATTERY	1	Z2000054
ACCELERATOR	1	Z201502
TACHOMETER + HORAMETER	1	Z200053
SCREEN	1	Y200129
DASHBOARD LIGHTING	1	Z200008
BATTERY SWITCH	1	Z200163
VOLTMETER 12V	1	SOP580012
REGULATION VALVE	1	AR465442
SAFETY VALVE 2" - 8-20 BAR	1	MGP265060
PRESSURE LIMITER 1" 1/2 - 3 BAR	1	Z430002
INJECTOR	1	Y110003
FLOW DETECTOR	1	Z220208
FOAM CONCENTRATE FLOWMETER DN25	1	715593
ELECTRONIC CARD	1	U070010
PRESSURE SENSOR	1	Z220202
WATER FLOWMETER	1	Z220015
MAGNETIC DETECTOR M12	1	F732734



Electrical diagram



 <p>Parc d'entreprises Visions 01090 - GUREINS Tel: 04 74 06 47 00 info@ctd-purification.com</p>		N°identification : Ensemble : SALAMANDRE 180 Désignation : Electrical diagram
Matière :	Ech. : 1:1	
Date :	29/03/16	
Par :	CDU	



HEAD OFFICE

Parc d'entreprise Visionis - 01090 GUÉREINS (France)

Tel. : +33 (0)4 74 06 47 00

Fax. : +33 (0)4 74 06 47 09

Email : incendie@ctd-pulverisation.com

www.ctd-pulverisation.com