



Fire-fighting



MPVE Range

**USER MANUAL
MPVE 180 PETROL**



Version 4
01/09/16



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Performances

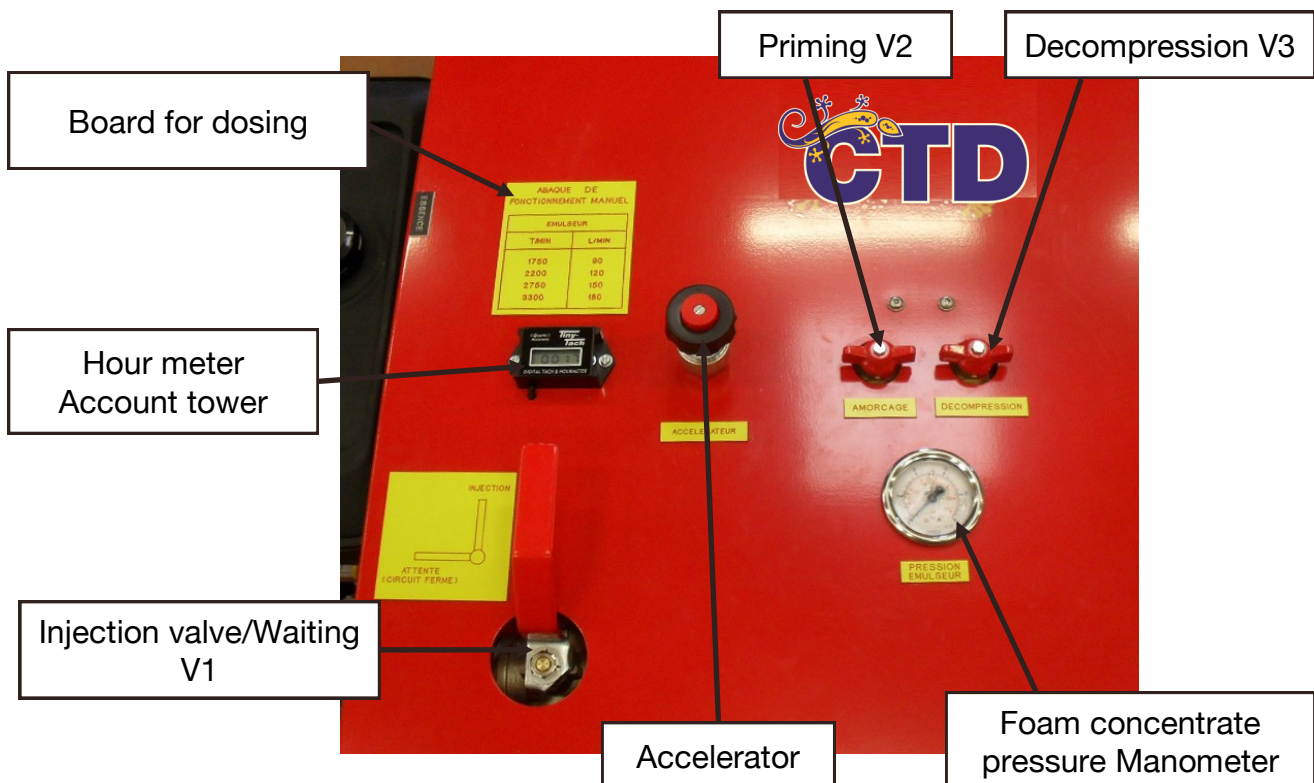
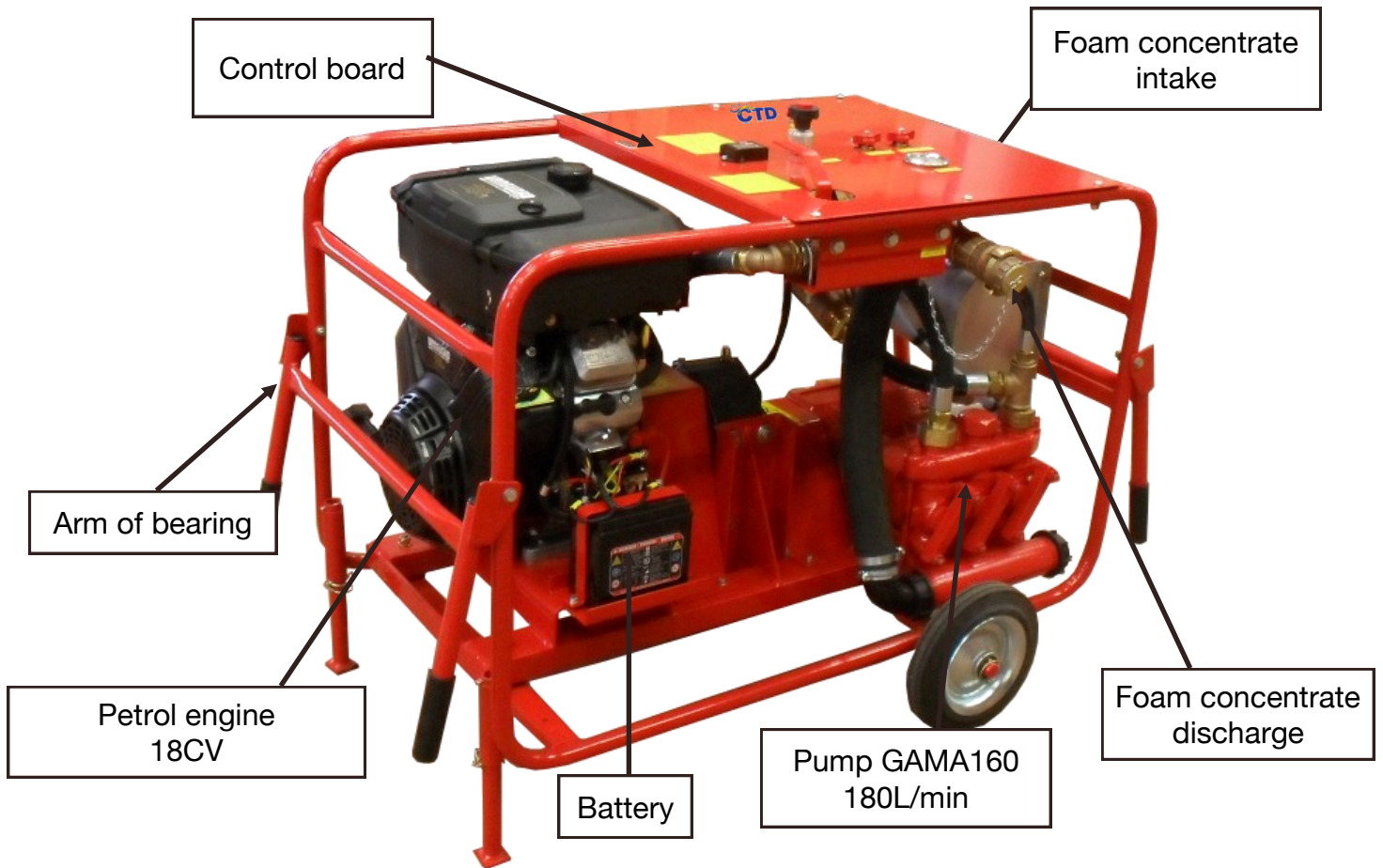
- Flow of the motorpump : 180L/min
- Maximum pressure of the motorpump : 15 bar
- Injection pipe Ø45mm distance up to 200m line Ø110mm.
- Loss in the ligne of Ø110mm due to the injection of less than 0.1 bar.
- Supplying a foam monitor 1500L to 3000 L/min , at 3% to 6%.

PRESENTATION

OF THE MPVE 180



Presentation of the MPVE 180

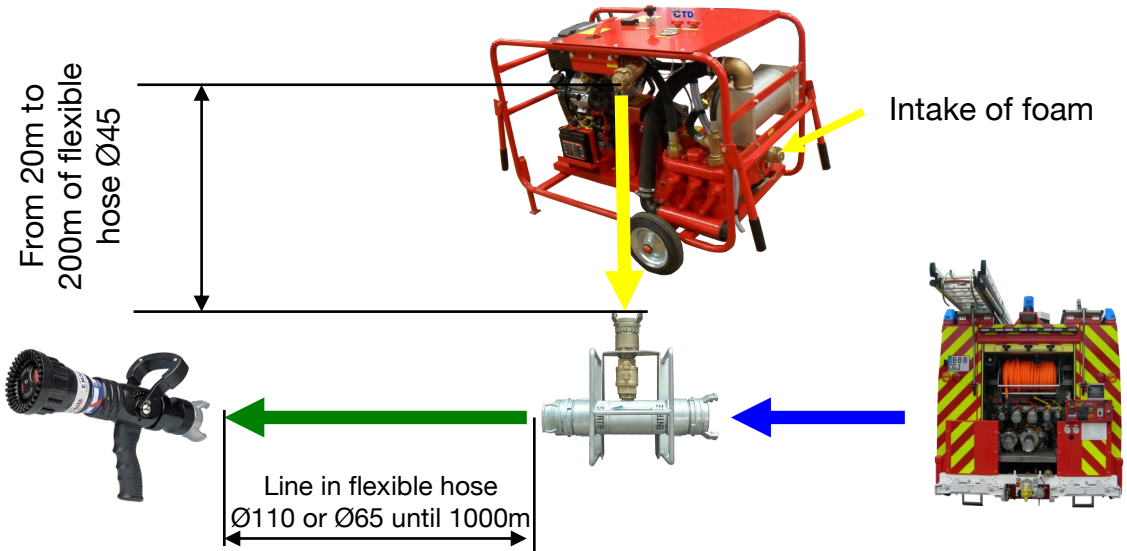




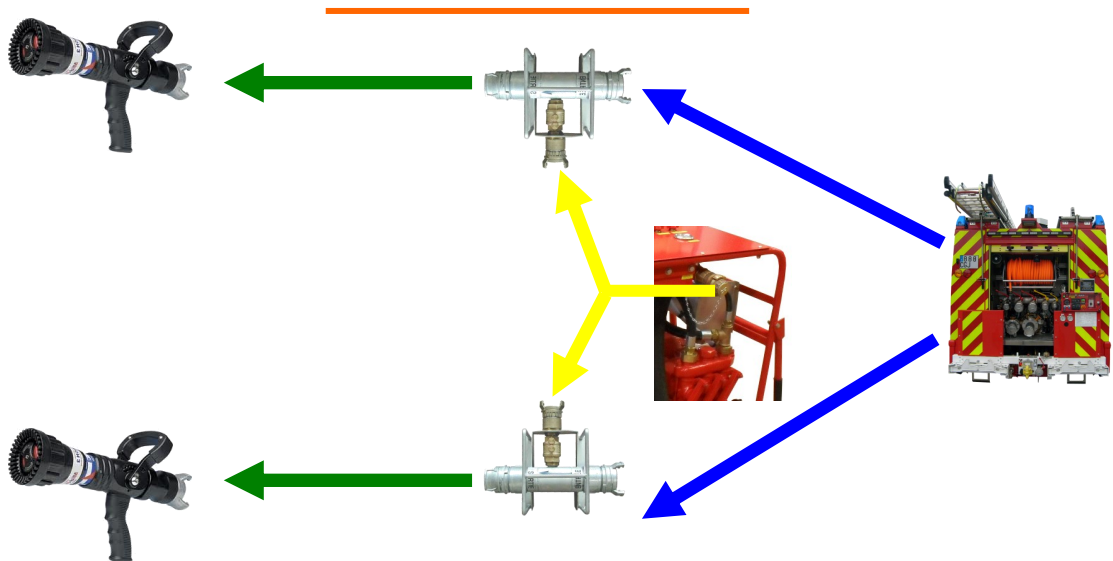
Instructions for the injection

POSSIBLE DIAGRAM OF USE :

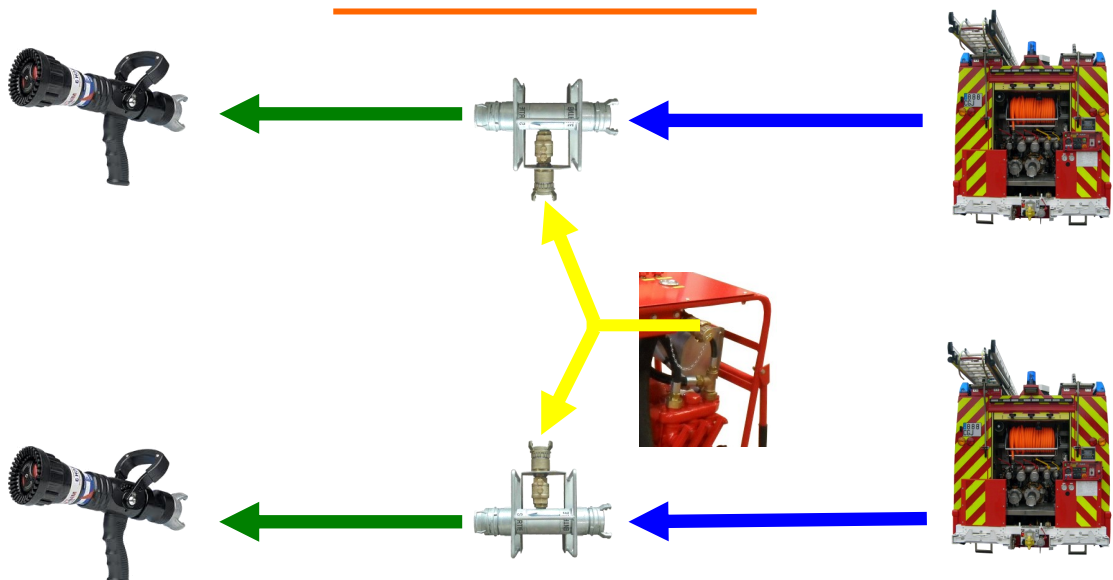
1



2



3



GENERAL

DIAGRAM



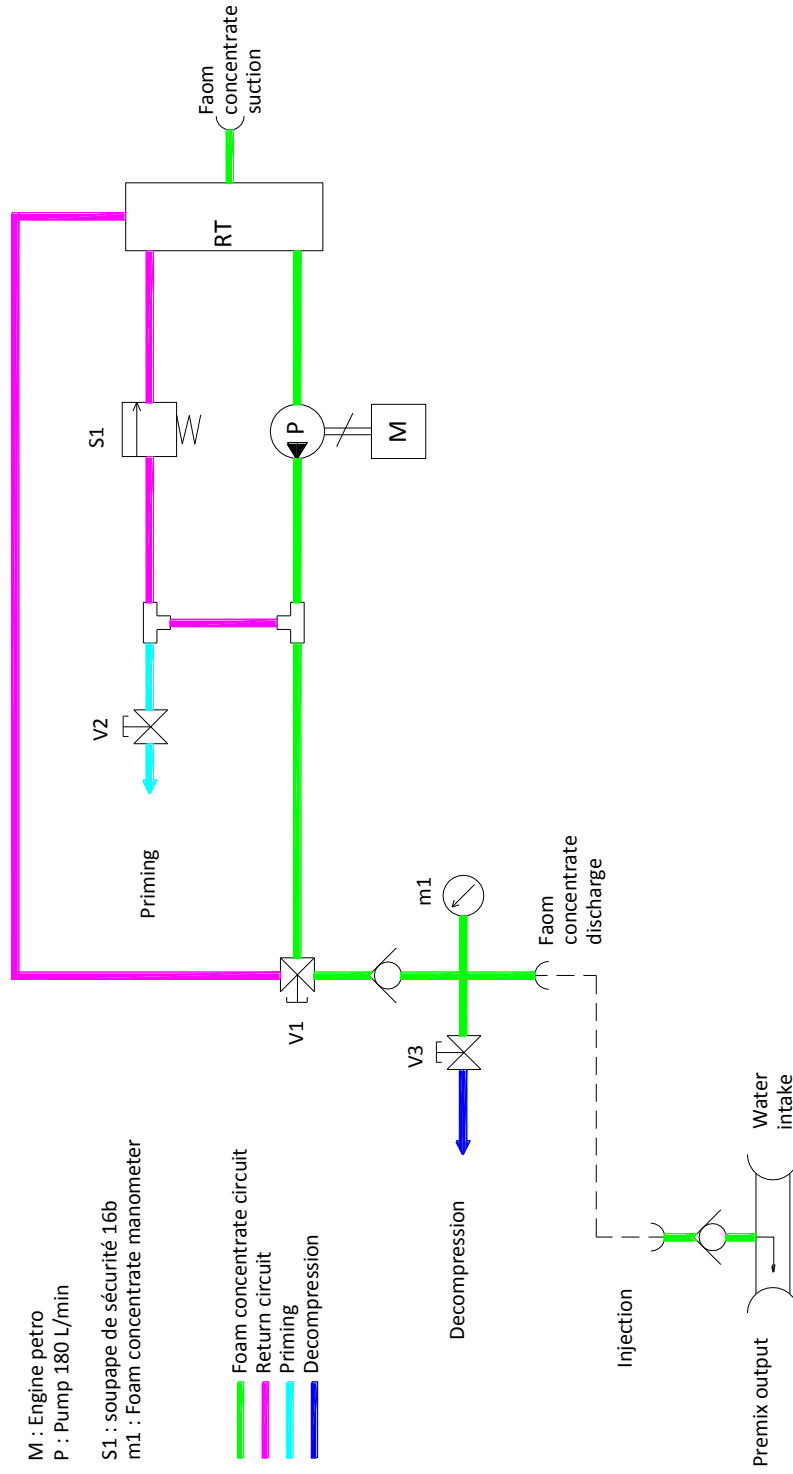
Hydraulic diagram


V1 : Valve 3 ways injection/return
 V2 : Priming valve
 V3 : Decompression valve

M : Engine petro
 P : Pump 180 L/min

S1 : soupape de sécurité 16b
 m1 : Foam concentrate manometer

— Foam concentrate circuit
 — Return circuit
 — Priming
 — Decompression



 Parc d'entreprises Visions 01050 - GUILLETINS Tél: 04 74 06 47 00 info@ctd-pulverisation.com	N° identification :	Matière :
	Ensemble : MPVE 180	Ech. : 1:1
Désignation : hydraulic diagram		Date : 23/02/16
		Par : CDU

OPERATING

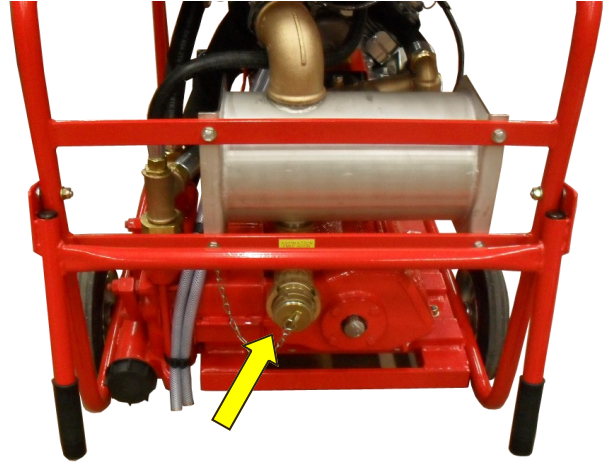
PROCEDURE



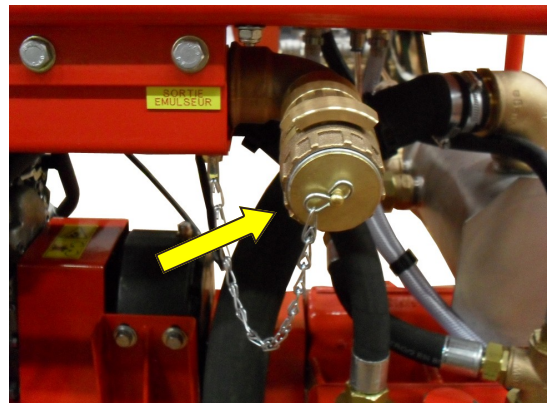
Operating procedure

1- CONNECTION :

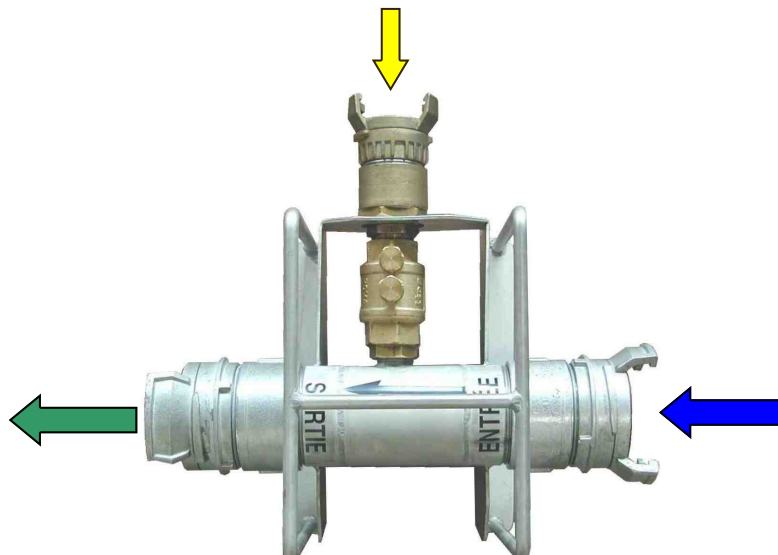
- Connect the suction hose :
 - Hose Ø45 half-rigid.
 - Cramming by motor-driven pump of transfer (Maxi 5 bar).
 - Suction rod DN40.



- Connect the discharge hose :
 - Flexible discharge hose Ø45.



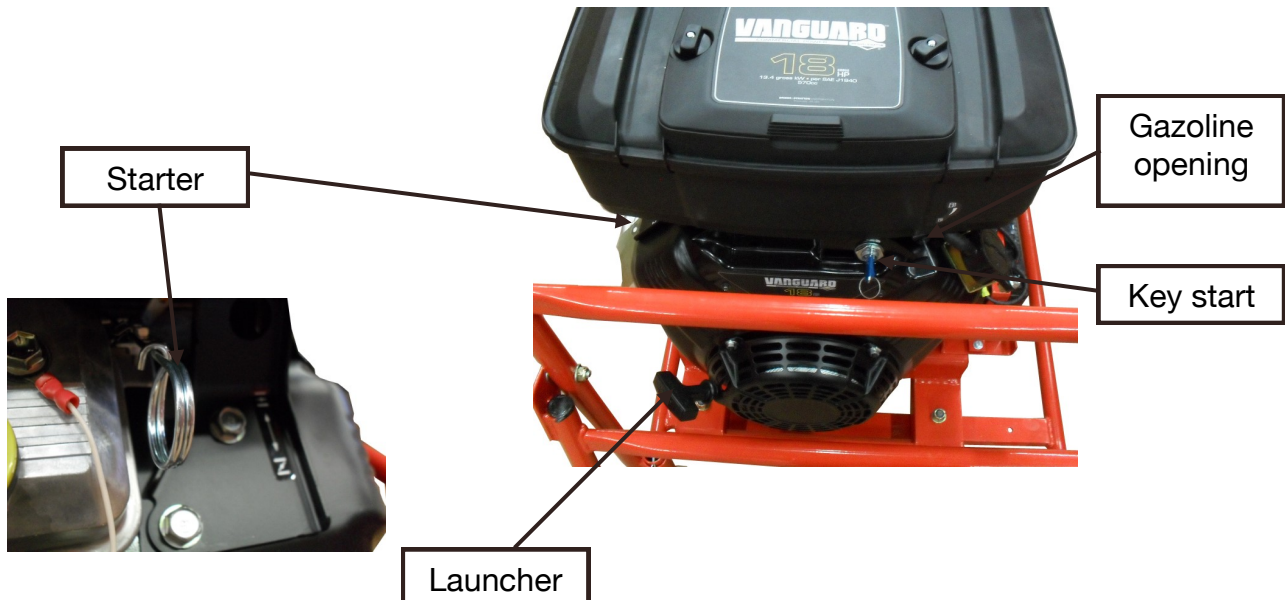
- Connect the injector :
 - Flexible water hose Ø110 inlet and outlet of the injector.
 - Flexible hose Ø45 from the discharge of MPVE.



Operating procedure

2- GETTING STARTED :

- Refer to the instruction book of the motor if necessary .

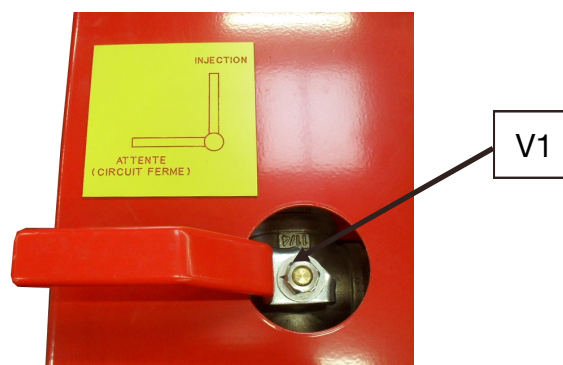


- Open the fuel supply
- Put the starter and regulate speed to the maximum
- Start the engine after the ignition is switched « ON »
- Either with the key, or manually with the launcher
- Once the engine is warm, remove the starter.

3- PRIMING :

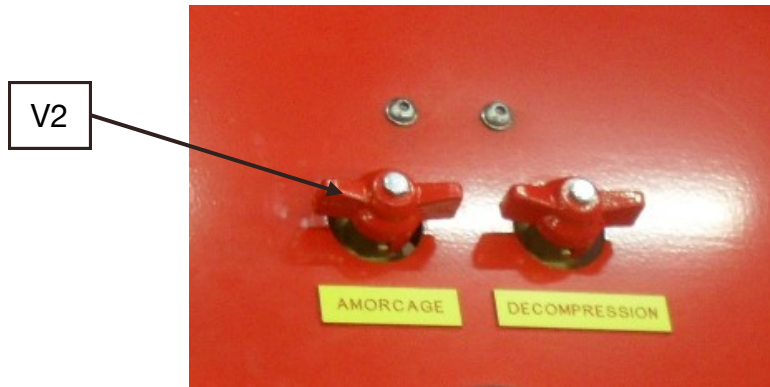
This operation should be carried out at each starting.

- The injection valve **V1** is in position « **WAITING** ».



Operating procedure

- Open the priming valve **V2**.



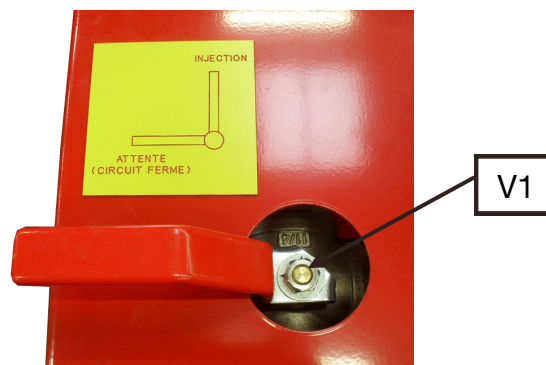
- Close the valve as soon as the foam concentrate exits through the orifice of the drain pipe.

NOTE : For the sake of environmental protection, do not leave the foam concentrate spread itself on the ground: put the hose into a can to recover the product.

4- WAITING POSITION :

In order not to leave the MPVE under pressure when one does not inject, a position of waiting is envisaged so that the product can turn in closed circuit.

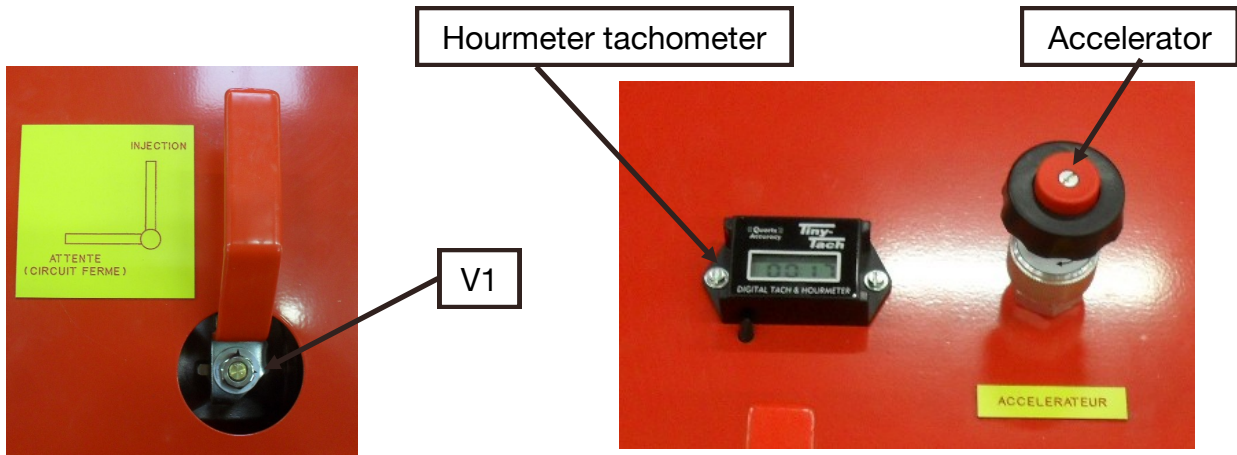
- Switch injection valve **V1** on the position « **WAITING** ».
- Put the engine at the idle .



Operating procedure

5- INJECTION :

- Accelerate the engine with the desired speed.
- Put the injection valve **V1** on the position « **INJECTION** ».



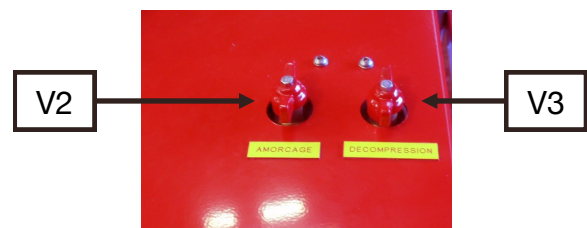
- To change the setting: turn the accelerator to the right to accelerate the motor and vice versa
- Set the desired value with the value shown on the tachometer
- Refer to the abacus opposite :
The foam concentrate flow is displayed in liters per minute.

EMULSEUR	
T/MIN	L/MIN
1750	90
2200	120
2750	150
3300	180

NOTE : It is important to have open the monitor before switching the injection valve in order not to fill the water line of foam concentrate if it is not necessary.

6- FLUSHING :

- After the intervention, there remains foam concentrate in line injection hose Ø45.
- Also it is necessary to make aspire water to the MPVE to rinse it with the pipe Ø45.
- This operation must be carried out at least during five minutes.
- The injection valve **V1** will be operated several times during flushing to rinse the piping of return.
- Also open the priming valve **V2**
And the decompression valve **V3** to clean the pipes.



Operating procedure

7- FROST PROTECTION :

After the flushing, to draw air to the pump and open all repressions to purge it completely.

8- STOP:

- Put the injection valve **V1** on the position « **WAITING** ».
- Stop the engine.
- Decompress the discharge pipe by opening the valve of decompression **V3**.



NOTE : As for the pipe of purging, it is preferable to also put the pipe of decompression in a can to recover the product.

9- WARNING :

- **Pump joints are in leather material, it is thus necessary to make an operation per month at least to moisten the leather pump, preventing cracks and leaks.**
- Simplified procedure to moisten the pump : (engine OFF)
- Connect a water pipe on the external suction. (warning : maximum 5 bar), put the valve **V1** on « **INJECTION** », also open the valve **V2**.
- Let the water run during 5 minutes.
- Stop the water.
- Return the valves to their initial positions.
- **Never run the pump without water supply.**

ANNEXES





Engine 18CV 3564



Dimensions

Dimensions (L x l x H) . Horizontal shaft version	318 mm x 410 mm x 438 mm
Dimensions (L x l x H) . Vertical shaft version	439 mm x 406 mm x 344 mm

Specifications

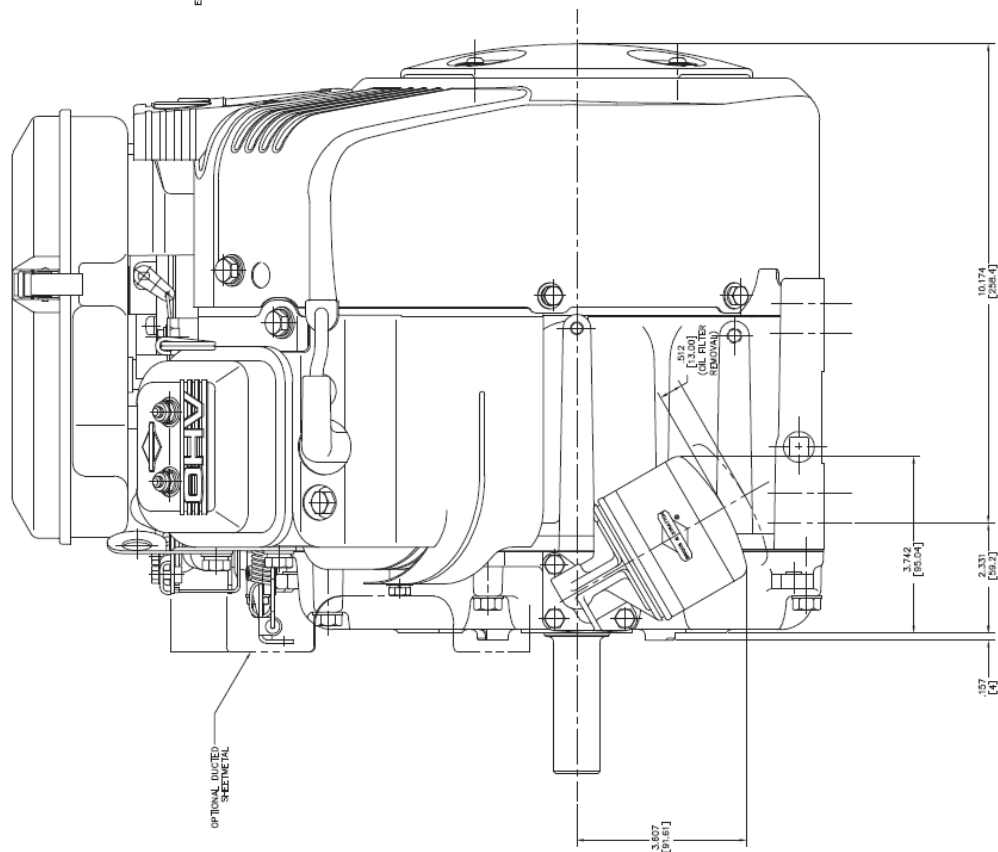
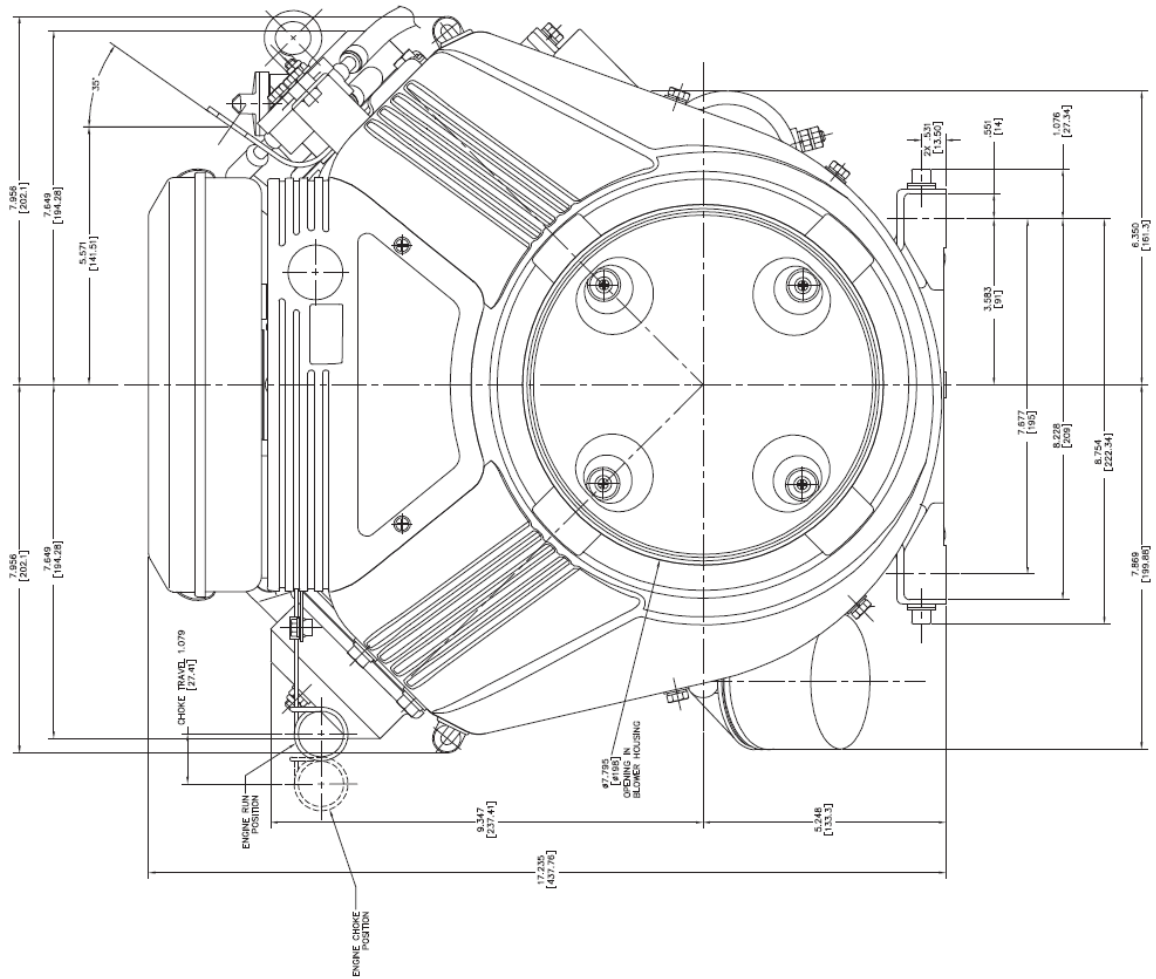
Motor designation	V-Twin 18.0 HP*
Cylinder capacity	570 cc
Bore and stroke	72 mm x 70 mm
Torque	39.3 Nm @2400 RPM*
Cylinder	Lined cast iron
Tank capacity	without
Quantity of oil	1.7 liter (with filter)
OHV	V-Twin overhead valve
Air filter	Double element Dual-Clean™
Dry weight	33.3 kg

Particular characteristics

Power (Raw)	Raw power de 18,0 CV*
Number of cylinder (s)	2
Configuration	Cylinders V and horizontal or vertical shaft
Bore	72,00 mm
Stroke	70,00 mm
Compression ratio	8,2:1
Ignition	Magnetron®
Lubrication	Under pressure with interchangeable filter
Supply	Single venturi carburetor bowl
Cooling	Forced air
Fuel	Gasoline
Speed control	Centrifugal mechanical
Standard power take-off	Cylindrical keyed 1" SAE (other: see Options)
Engine block	Aluminum with cast iron sleeve
Flyweel	In cast iron
Crank shaft	In ductile cast iron
Rotation of the PTO shaft	Anticlockwise
Standard boot	By launcher with automatic return or electric starter and launcher with automatic return
Compliance standards pollution	EPA ; EU

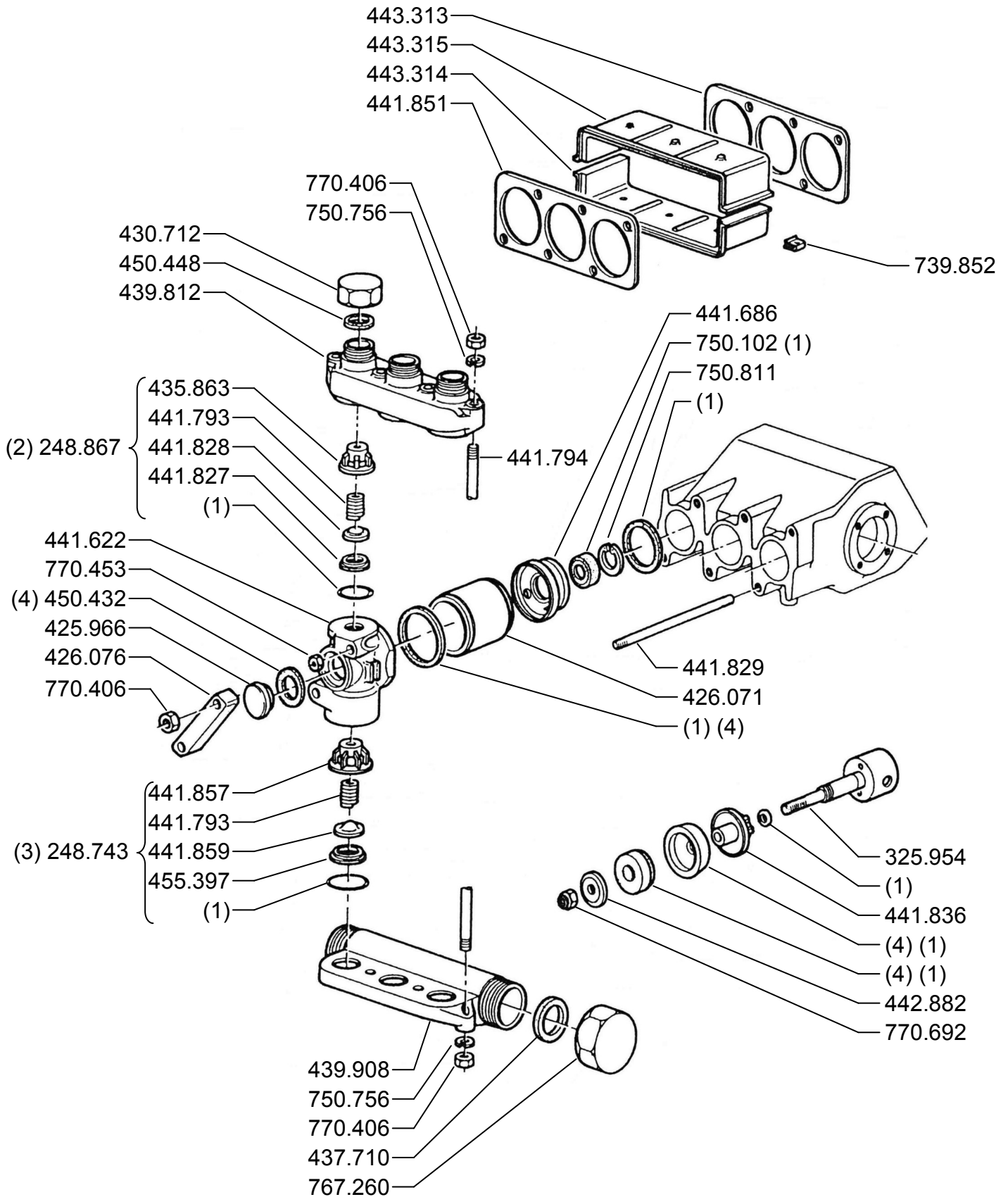


Engine 18CV 3564





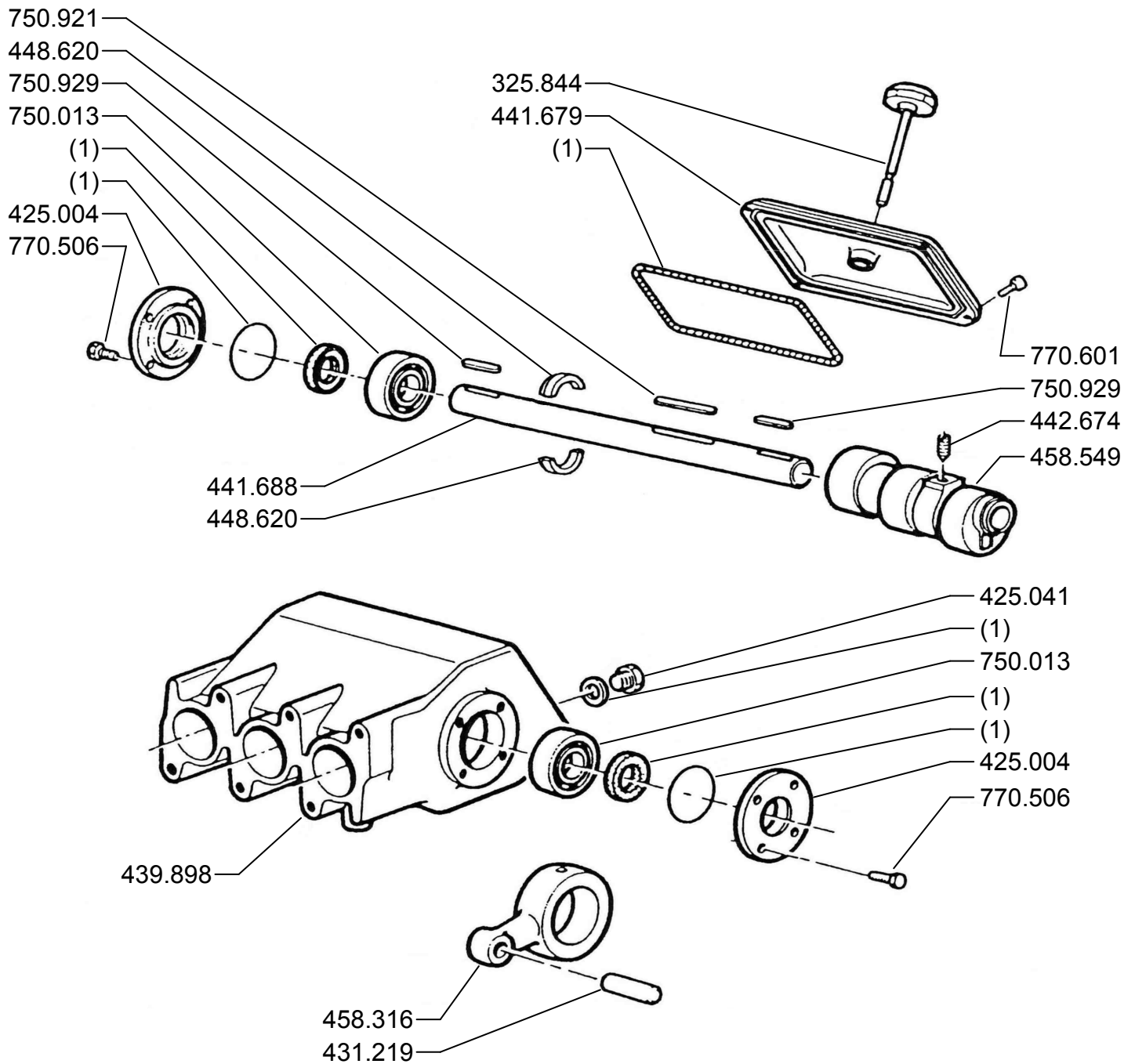
Pump GAMA 160



- (1) Parts being in the small pouch of breakdown service Ref : 248.831
- (2) Set of 3 valves of discharge Ref: 260.891
- (3) Set of 3 suction valves Ref: 224.787
- (4) Set of 3 pistons leathers with ring and joint Ref: 225.297



Pompe 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

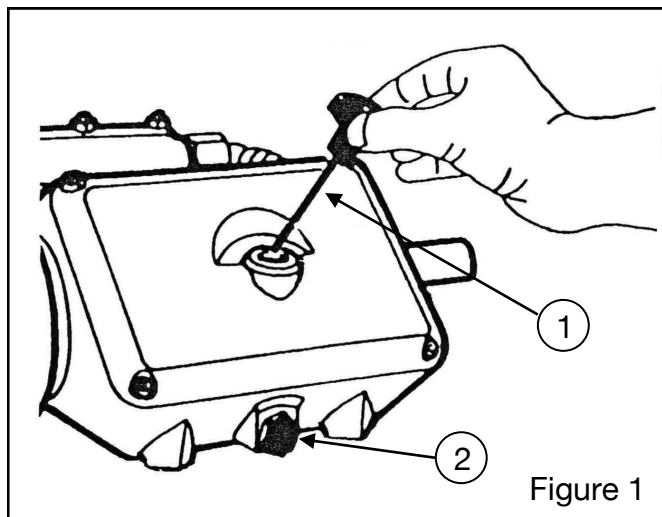


Figure 1

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 slightly 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 nylstop (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 millimeter.

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

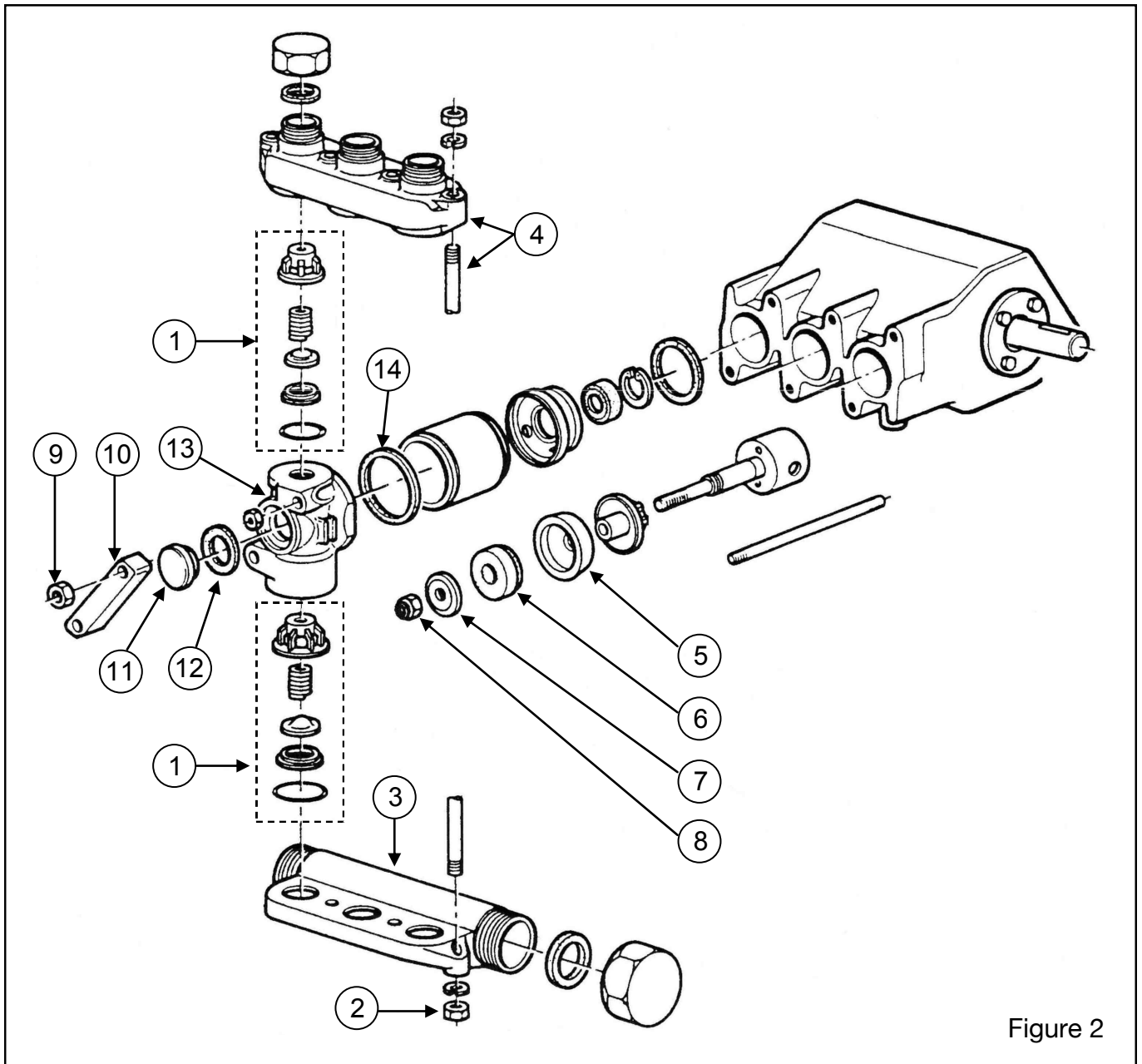


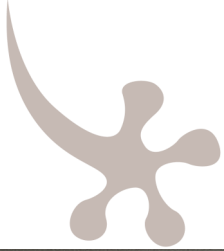
Figure 2

FOOT NOTE :

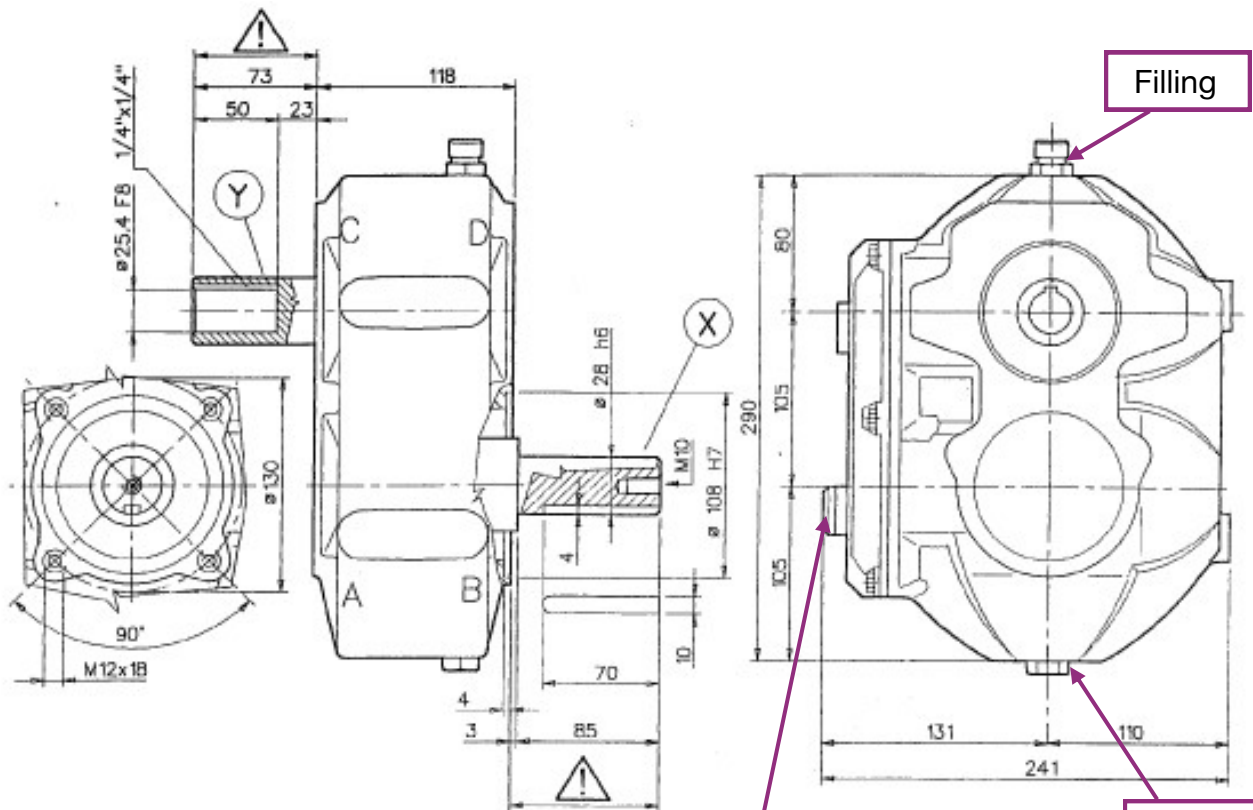
If you don't use the pump during few weeks, you could see some liquid get out of the pump. But this thing must stop after a few minute. If it persists, to tighten the cups of piston.

PROTECTION AGAINST FREEZING :

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



Reducer 1:5 3500/700 Tr/min



MAINTENANCE TO BE MADE :

The first draining to make after 50h00 operation
Then 1 draining all 500h or 1 time every 2 years
Oil : ISO VG150 or 80W90

Level
(red point)

Oil change

ATTENZIONE ! Tous arbres entrainés NON SONO PROTETTI. OGNI COMPONENTE IN ROTAZIONE DEVE AVERE UNA PROTEZIONE SPECIFICA O INTEGRATA CON LA MACCHINA. BMA DECLINA OGNI RESPONSABILITÀ IN CASO LE IDONEE PROTEZIONI NON SIANO PREVISTE E MANTENUTE EFFICIENTI.		WARNING ! ROTATING SHAFTS MARKED ARE NOT SHIELDED. ANY SHAFT AND COUPLING NOT GUARDED BY LOCATION MUST BE SHIELDED BY AN INTERACTIVE GUARDING SYSTEM. BMA DECLINES RESPONSIBILITY IF PROPER GUARDS ARE NOT PROVIDED AND MAINTAINED.		ATTENTION ! LES ARBRES REPERES PAR SONT SANS PROTECTEUR. CHACUN COMPOSANT EN ROTATION DOIT ETRE OBLIGATOIREMENT PROTEGE PAR UN B.O.L. SPECIFIQUE. BMA DECLINE TOUTE RESPONSABILITE CONTRE TOUTE NEGLIGENCE.		ACHTUNG ! DIE MIT GEKENNZEICHNETEN WELLEN SIND FREILEGEND. JEDES DREHENDE BAUTEIL MUSS EINEN SPEZIFISCHEN ODER IN DIE MASCHINE INTEGRIERTEN SCHUTZ HABEN. BEI NICHT GEGENSTÄNDEN ODER UNZUREICHEND INSTANDERHALTENEN SCHUTZVORRICHTUNGEN LEHNT BMA JEGLICHE VERANTWORTUNG AB.			
RAPPORTO RATIO RAPPORT VERHÄLTNIS	ENTRATA INPUT ENTREE ENGANG	POTENZA POWER PUISSANCE LEISTUNG		COPPIA TORQUE COUPLE DREHM.		USCITA OUTPUT SORTIE AUSGANG	MONTAGGIO ARRANGEMENT MONTAGE MONTAGE	ENTRATA INPUT ENTREE ENGANG	CODICE CODE CODE BESTELLNUMMER
		N giri rpm. T./min. U./min.	CV kW	N·m	N·m				
5:1	2500	20	14.7	57.3	280	500		Y	6065.300.050
Peso indicativo Approximate weight Poids indicatif Gewicht ca.	Olio consigliato Recommended oil grade Huile préconisée Empfohlenes öl		Materiali Materials Scatola Case Boite Gehäuse			Materiali Materials Alberi Shafts Arbres Wellen		Cuscinetti Bearings A B C D E	
Kg.23	SAE 90 Kg. 2		G 25			16CrNi4		16CrNi4	



Spare parts

DESIGNATION	QUANTITY	REFERENCE
Gasoline engine	1	18CV 3564
Pump GAMA 160	1	220313
Reducer 1:5 3500/700 Tr/min	1	Z450001
Coupling plate HRC 110 F1610	4	Z410130
Elastic element HRC 100/110	2	Z410135
Hub TL1610 Ø25.4	2	Z410148
Hub TL1610 Ø30	1	Z410150
Hub TL1610 Ø35	1	Z410152
Hour meter	1	SOP175222
Manometer	1	SF1623008
Safety valve 16 bar	1	MGP263342
Elastic studs	4	Z410005
Accelerator	1	Z201502
Pump oil GAMA	1	779026
Pump gasket sets	1	225297
Battery 12AH 12V	1	Z200164
Black handle Ø25	4	Z012501
Wheel Ø250	2	Z022501



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