



INSTRUCTION MANUAL  
**AIRLESS<sup>®</sup> PUMP - MODEL 60.121**

*Notice : 0504 573.097.110*

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PARTS IDENTIFICATION LISTS :	60.121 pump	(Doc. 573.199.050)
	121 fluid section	(Doc. 573.190.040)
	8 000/4 air motor	(Doc. 573.646.040)
	Reversing block	(Doc. 573.087.040)
	Air supply unit	(Doc. 573.200.050)

Dear customer,

We thank you very much for purchasing our pump, model 60.121. You are the owner of the most reliable pumping system available on the market.

Special care has been taken during all designing and manufacturing process to make sure your investment will provide full satisfaction.

To get the best result, safe and efficient operation of your equipment, we advise 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. EC DECLARATION OF CONFORMITY

The manufacturer : **KREMLIN REXSON** with assets of 6 720 000 euros

Head office : 150, avenue de Stalingrad – 93 245 - STAINS CEDEX - FRANCE

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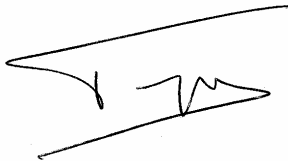
Herewith declares that : Pneumatic pump

Is in conformity with the provisions of :

CE - Machinery Directive (Directive 98/37/EC) as amended and with national implementing legislation.

Ex - ATEX Directive (Directive 94/9/EC) :  II 2 G (group II, class 2, gas).

Established in Stains, on march 1st 2003,



Daniel TRAGUS  
President

## 2. SAFETY INSTRUCTIONS

- ➔ The personnel involved in operating and servicing this equipment must be aware of all the 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.
- ➔ Use the equipment only in a properly ventilated area to maximize health care. Any misuse of the spray equipment or accessories can damage them and result in serious body injury, fire or explosion hazard.
- ➔ Never point the spray gun at anyone or at any part of the body.
- ➔ Spraying of some materials may result in hazardous working conditions. To protect the operator respirator mask and hand cream are required.
- ➔ Because operating pressure of these equipments is particularly high, some precautions must be taken in order to prevent accidents and unsafe working conditions.

### HOSE

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 the hoses are not crimped, leaking and not unrolled.

Be certain hoses are in good condition 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

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

For specific cases :

contact your authorized dealer to get appropriate solvents for the preparation of the materials or cleaning of the pump.

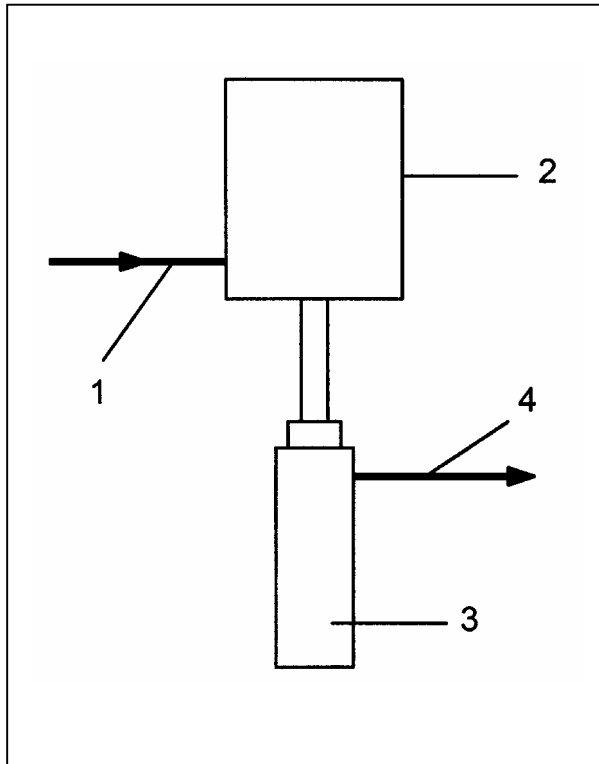
## GUN

Never wipe the end of the tip with the fingers.

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

- ➔ Before cleaning or removing components of the equipment, it is compulsory :
  - to stop the pump by shutting off the compressed air supply.
  - to point the spray gun into an appropriate waste receptacle and press the gun trigger to depressurize the system.

### 3. OPERATING PRINCIPLE



#### The pump consists of :

An alternating air motor (2),

An hydraulic section (3) mechanically coupled to the motor.



The air motor piston rod drives the hydraulic section piston.

When the piston is raising and lowering the material is drawn into pump body (3).

The material is forced under pressure into hose (4) to the gun.

The pressure in (4) is equal to the pressure in (1) x pump pressure ratio



Ex : P (1) = 5 bar / 72 psi  
P (4) = 5 x 60 = 300 bar / 4350 psi

## 4. TECHNICAL FEATURES

Air operated piston pump. Designed to dispense thick materials (semi-mastic).

Motor type ..... 8 000/4  
 Pump body type ..... 121  
 Fluid pressure ratio ..... 60/1

### Wetted parts :

- Hard chrome stainless steel
- Stainless steel.
- Aluminium alloy.
- Treated steel.

### Standard tightness packings :

- Upper : acetale resin
- Lower : PTFE G

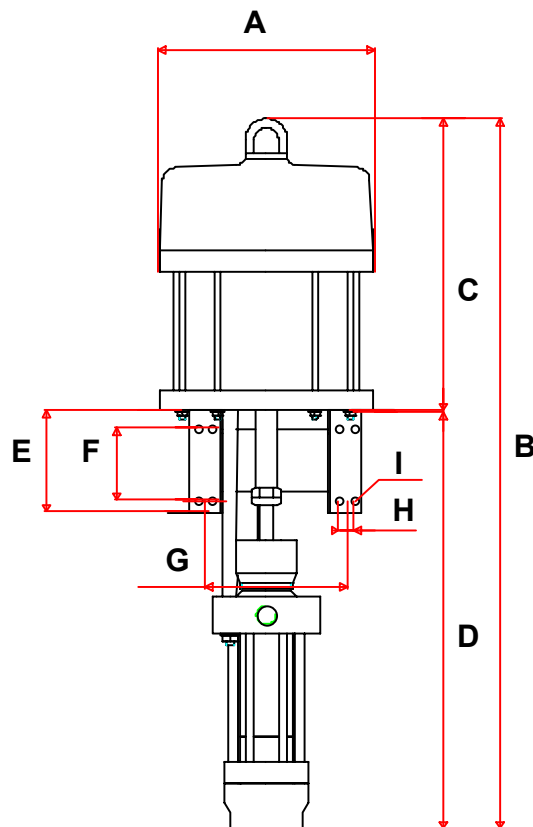
### Fittings :

Air inlet ..... M 26 x 125  
 Material outlet ..... F 1" or M 3/4 JIC  
 Material inlet ..... F 2" G or M 38x150  
 A suction rod can be fitted at the material inlet.

Air motor stroke.	100 mm	4"
Air motor section.	748 cm <sup>2</sup>	116 sq.in
Maximum operating pressure	6 bar	87 psi
Hydraulic section.	12 cm <sup>2</sup>	1.86 sq.in
Pump capacity.	120 cm <sup>3</sup>	7.3 cu.in
Maximum discharge pressure	360 bar	5 221 psi
Delivery per cycle	240 cm <sup>3</sup>	14.6 cu.in
Number of cycles	4 per liter	15.7 per gallon
Air consumption per cycle (under 4 bar / 58 psi air pressure)	90 liters	24 US gal
Sound level	< 82 dBa	< 82 dBa

### Dimensions

Rep.	A	B	C	D	E	F	G	H	I
mm	Ø 378	1 116	466	650	180	150	252	35	Ø 7
Inch.	14.9	43.9	18.3	25.6	7	5.9	9.9	1.4	0.3



## 5. START UP

Fill up the pump wetting cup with KREMLIN "T" lubricant (or an appropriate solvent).  
Unscrew the air regulator.  
Interconnect the equipment with the air pressure network (clean air - maxi 6 bar / 87 psi).  
Connect all the hoses.

### ■ PRIMING THE PUMP

Insert the suction rod into the material container.  
Open the drain valve.  
Increase air pressure "MOTOR AIR" so that the pump runs slowly :  
⇒ the material should come out from the pump outlet.  
Close the drain valve.  
Adjust air regulator "MOTOR AIR" to get the appropriate material pressure and flow rate.

### ■ SHUTDOWN AT END OF WORK

Unscrew the air regulator.  
Always leave the pump filled up with material or clean solvent.  
The piston of the fluid section must stop cycling in the **downstroke** position to prevent damage to the packings (when starting up the pump) resulting from material drying.  
When stopping the pump for a long duration, after flushing, leave it filled up with solvent.

## 6. MAINTENANCE

### ■ WEEKLY CARE

**Comply with safety instructions** (turn off air supply to the system and pull the gun trigger to depressurize the system before carrying out any servicing on the equipment).  
Check and tighten all fittings.  
Be certain the hoses are in good condition.  
Keep the pump piston clean to prevent it from material drying.  
Make sure the pump wetting cup is always filled up with T lubricant (this T lubricant will normally be coloured by the material).  
Keep the suction strainer clean and in good condition.  
Manipulate (open and close) all the valves of the installation.  
Keep the spraying area clean.

### ■ BIMONTHLY CARE

Check the tightness of the upper cartridge.  
If the lubricant is excessively coloured by the material, fill the wetting cup with new lubricant (or, if necessary replace the upper flange seals).  
Regularly clean the wetting cup with solvent after having drained the lubricant.

### ■ MONTHLY CARE

Check and tighten the upper cartridge (shut off or disconnect air supply from the pump).  
Check and tighten the coupling parts.  
(The pump piston must move at regular speed during the up and down strokes).

### ■ YEARLY CARE

Disassemble the pumps : replace the packings and seals.

## 7. TROUBLESHOOTING CHART

TROUBLE	CAUSE	SOLUTION
The pump does not work or stops operating.	Air supplying. Packings of hydraulic piston are stuck. Frosting (motor). Nozzle is clogged.	Check air pressure. Clean or replace. Defrost and lubricate using a little oil. Clean.
The pump cycles continuously (drain valve closed).	No starting up. Lack of material. Valve is blocked.	Check feeding pressure. Clean or replace it.
The pump piston goes down faster than it goes up.	Leakage from the suction valve.	Clean it.
The pump piston goes up faster than it goes down.	Leakage from the exhaust valve.	Clean it.
The pump piston goes down rapidly half-way, then resumes normal speed.	Pump improperly drained. Leakage from the suction valve.	Open the drain valve until material starts coming out regularly. Then close the drain valve. Check the suction valve.
The pump operates but provides an irregular flow rate.	Air in the chamber Bad tightness of the valves.	Check the fittings. Clean them.

## 8. DISASSEMBLY AND REASSEMBLY OF THE 121 FLUID SECTION

### ■ DISASSEMBLY

Separate the fluid section from the air motor.

Unscrew cup (1).

Remove the 6 nuts (19).

Remove upper flange (17).

→ Pull upper packing (A) off the upper flange.

Separate cylinder (5) from upper suction flange (14) and lower suction flange (11).

→ Remove lower packing (B) and piston (2).

Unscrew the 6 screws (30) to separate lower suction flange (11) from upper suction flange (14).

→ Remove suction valve (Ind. 8-9-12-13).

### ■ REASSEMBLY

Replace the seals. Lubricate them.

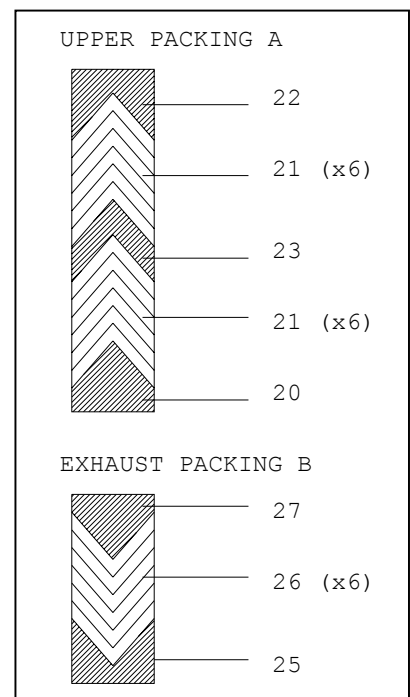
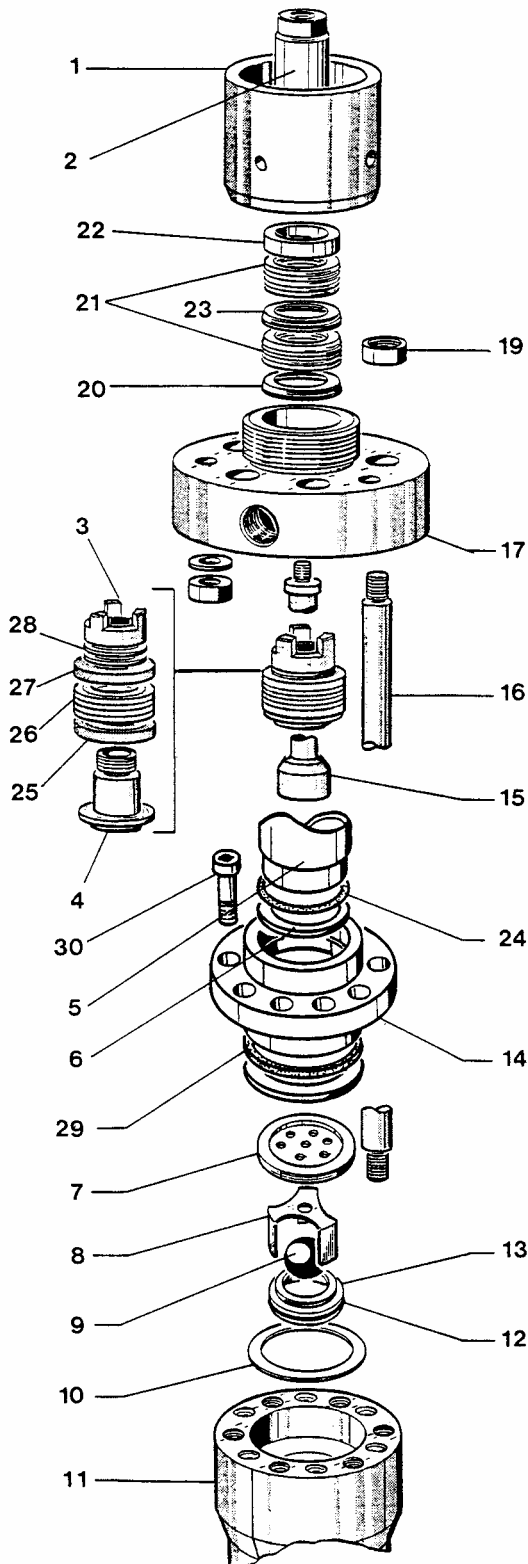
Clean the parts with a solvent soaked rag (white spirit).

## UPPER PACKING

Install chevron seals (21) and washers (20-22-23) of the upper packing into upper flange (17) - Be certain the chevron seals are properly installed as shown below.

By hand and moderately, screw cup (1) onto upper flange (17).

Insert piston (2) into parts (1-A-17) – from 1 to 17 to assure the proper orientation of the chevron seals.





## **EXHAUST VALVE**

Install chevron seals (26), rings (25-27-28) onto exhaust valve seat (4) - Be certain the chevron seals are properly installed as shown before (packing B).

Screw exhaust valve seat (4) into exhaust valve nut (3) to tighten packing (B) - use blocking washers (8) if necessary.

Install the whole onto exhaust valve (15).

Screw and tighten exhaust valve (15) into piston (2) - (previously apply a light coating of glue to assure the proper tightening).

Apply a light weight grease inside cylinder (5) and on seals (26) to prevent their damage when re-installing.

Install seals (24 and 6) and then cylinder (5).

## **SUCTION VALVE**

Position ball cage (8), ball (9) and ball seat (13) with its seal (12) into lower suction flange (11).

Install lower suction flange (11) - with its seal (10) and stop washer (7) - onto upper suction flange (14) and secure with the 6 screws (30). Torque to 12 m/kg.

Install the whole (lower and upper suction flanges) onto cylinder (5). Secure them via the 6 tie-rods (16) and nuts (19). Screw the nuts onto the tie-rods and torque to 8 m/kg.

**Caution : after air motor reassembly, fill the wetting cup with T lubricant and gradually increase pressure to maximum in fluid section.**

**Run the pump for half an hour and then check the torque.**