KREMLIN REXSON

INSTRUCTION MANUAL

EXTRUSION PUMP - MODEL 50.22

Manual : 0501 573.648.012

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INSTRUCTION MANUAL

EXTRUSION PUMP - MODEL 50.22

SUMMARY

SPARE PARTS :

Pump assembly	(Doc. 573.087.050)
Fluid section	(Doc. 573.283.040)
Air motor	(Doc. 573.045.050)
Reversing block	(Doc. 573.087.040)
Air supply	(Doc. 573.310.040)
Double acting jack	(Doc. 573.564.040)

Dear customer,

We thank you very much for purchasing our extrusion pump model 50.22. You are the owner of one 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.

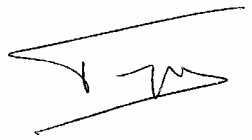
1. EC DECLARATION OF CONFORMITY

The manufacturer : **KREMLIN REXSON** with assets of 6 720 000 euros
Head office : 150, avenue de Stalingrad - 93 245 - STAINS CEDEX - FRANCE
Tel. 33 (0)1 49 40 25 25 - Fax : 33 (0)1 48 26 07 16

Herewith declares that : Pneumatic pump, is in conformity with the provisions of :

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

Established in Stains, on March 1st 2003,



Daniel TRAGUS
President

2. GENERAL SAFETY INSTRUCTIONS

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

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

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

Refer to local safety instructions and comply with them.

■ INSTALLATION REQUIREMENTS

➲ **Ground the equipments.**

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

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

Always keep the spray area clean and free from debris (solvent, rags,…).

Read paint and solvent manufacturer's technical instructions.

Spraying of some materials may result in hazardous working conditions. To protect the operator, respirator mask, hand cream and glasses are required. (Refer to chapter "Safety equipment" of KREMLIN selection guide).

■ EQUIPMENT REQUIREMENTS

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

Never exceed the components maximum working pressure of the equipment.

HOSES

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

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

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

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

All fittings must be tight and in good condition.

PUMP

➲ **Ground the equipment (use the connection on the pump).**

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

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

GUN

Never wipe the end of the tip with the fingers.

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

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

■ MAINTENANCE REQUIREMENTS

➲ **Never modify these equipments.**

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

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

- to stop the pump by shutting off the compressed air supply,

- to point the gun into an appropriate waste receptacle and press the gun trigger to depressurize the system.

3. TECHNICAL FEATURES

The 50.22 pump is a feed piston pump, powered by an air motor. It is designed to dispense thick materials such as : mastics, pasty materials, glues, to extrusion or spray guns.

Two versions are available :

- 50.22 bare pump.
- 50.22 pump mounted on 400 cart .

It is possible :

- to mount this pump in tandem with an automatic drum changing system.

Motor type..... 1000-4
Pump body type 22
Fluid pressure ratio 50/1

Metals in contact with the material :

Hard chrome stainless steel.
Treated stainless steel.
Treated steel.

Tightness packings :

Upper : PTFE G
Lower : without seal
Suction : PTFE G

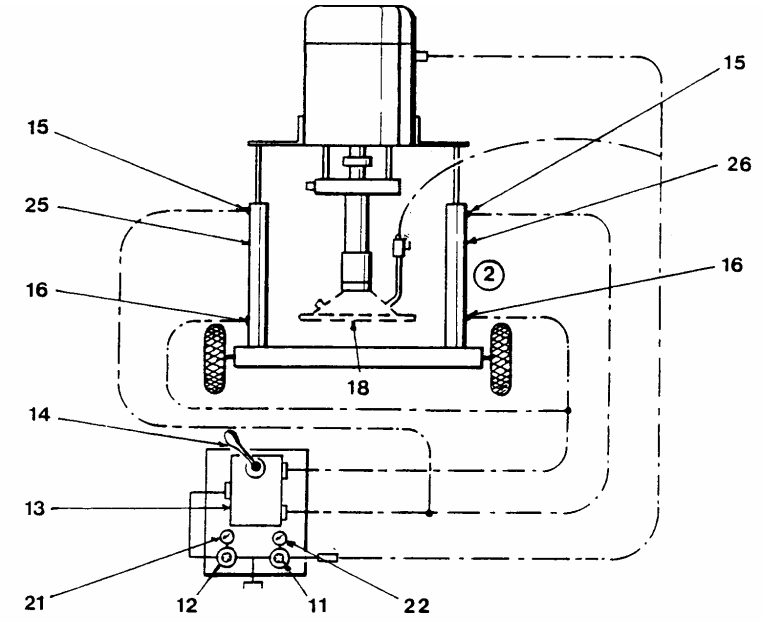
Air motor stroke	100 mm	4 inch.
Air motor section.	100 cm2	15.5 sq.in.
Hydraulic section.	2 cm2	0.3 sq.in.
Delivery per cycle	40 cc	1.41 oz
Number of cycle	25 per liter	95 per gallon
Maximum air operating pressure	6 bar	88 PSI
Maximum discharge pressure	300 bar	4351 PSI
Sound level	< 82 dBa	< 82 dBa
Maximum operating temperature	100°C	212° F

Fittings	Bare pump	Cart mounted pump
Air inlet	Female 3/8 G	Quick release fitting
Material inlet	Feeding tube	Feeding tube
Material outlet	Female 1/2 G	Valve Female 1/2 G

Dimensions :

Pump on a 400 cart : Width 700 mm / 27.6"
Height 1 150 mm / 45.5"
Depth 650 mm / 25.6"

4. OPERATING PRINCIPLE



The motor is coupled to the hydraulic section piston. When the piston is raising and lowering the material is siphoned and dispensed simultaneously.

The elevator (2) supports the pump. It includes 2 double action jacks (25) and (26).

When air pressure is applied on (15) (level 14 in a bottom position), the pressure force is exerted downwards and the pump is going down.

When air pressure is applied on (16) (level 14 in a top position), the pressure force is exerted upwards and the pump is raising.

The air supply (3) includes :

- 2 regulators (11) and (12),
- 1 air distributor (13) to control the elevator (2).

The regulators (11 and 12) are adjusted by means of : a red knob (for 11) - a grey knob (for 12).

In order to centre the follower plate (18) in the material drum, we move the level (14) down. The air pressure is applied on (15) and the pressure force is exerted on the follower plate (18). Thank to this pressure maintened on the material, the pump is force-fed ; thus making easy the suction (feeding).

By adjusting the pressure (21) (with the grey knob), we grade the pushing force. If this pressure is too high a material leakage between the plate seal and the drum occurs. If it is too low the pump feeding is insufficient.

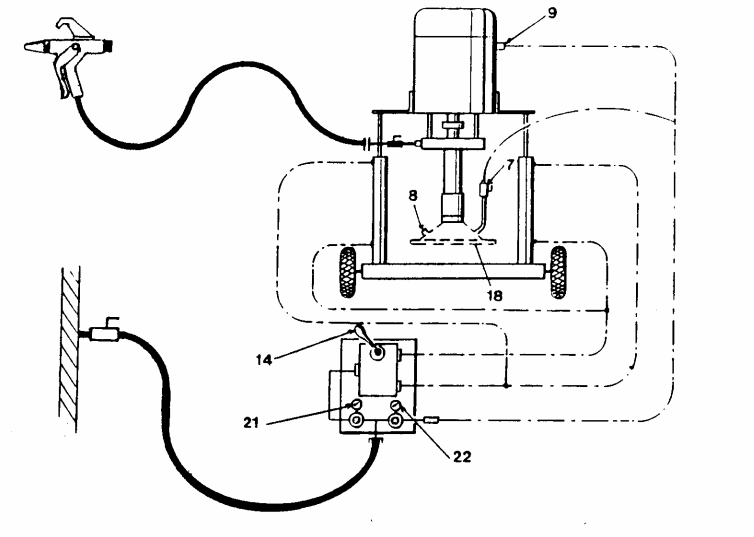
By adjusting the pressure (22) with the red knob we modify : the pump pressure - the discharge pressure and consequently the material flow rate.

5. INSTALLATION

To get a complete equipment, with the standard equipment, add :

- a follower plate at the pump suction
  for 400 cart : **plate Ø 306 mm / 12"** for 30 l drum (8 US gal)
  for elevator with double acting jacks : **plate Ø 306 mm / 12"** for 30 l drum (8 US gal) or **plate Ø 360 mm / 14"** for 60 l drum (16 US gal).
- a gun.
- a material hose, HP Ø 13 mm / 1/2" between pump and gun.
- an air hose (Ø 16 mm / 5/8") for equipment air pressure supply.

6. START UP



Start up procedure :

1 - Fill up the pump wetting cup with KREMLIN "T" lubricant (or an appropriate solvent).
2 - Unscrew the air regulators.
3 - Interconnect the equipment with the air pressure network (clean air - maxi 6 bar / 87 psi).
4 - Connect all the hoses as well as the spray gun.
5 - Move level (14) to horizontal position.
6 - Open pump air pressure supply.

7 - Turn grey knob until to obtain a 1 bar / 14.5 psi reading on gauge (21).
8 - Move up level (14). The pump should raise. Otherwise, increase the pressure.

The pump being in a top position :

9 - Move level (14) to middle position.
10 - Adjust the pressure (21) (grey knob) up to about 1 bar / 14.5 psi.
11 - Place the material drum under follower plate (18).
12- Make sure the follower plate diameter corresponds to the drum diameter (Ø 360 mm / 14").
13 - Be certain fitting (9) is installed on the pump.
14 - Close valve (7).
15 - Remove drain plug (8).
16 - Move down level (14). In order to centre the plate correctly in the drum, push down the level progressively.
17 - As soon as the material comes through drain (8), replace the plug. If the material does not come out, increase the pressure (21) by means of the grey knob.
18 - Keep level (14) in a bottom position.
19 - Turn red knob until to obtain a 2 or 3 bar reading on gauge (22) - (29 to 43 psi) : the pump should start cycling.
20 - Point the gun into a waste container and press the trigger.
21 - Adjust the pressure (22) so that the pump cycles at a rate of about 10 to 20 strokes/minute.
22 - Extrude the material until there is no more air.
23 - Install the nozzle and adjust the pressure (22) according to the desired flow rates.
24 - If the material overflows in the drum around the plate seal, turn grey knob (counterclockwise) to reduce the pressure.
25 - If the pump races that means it does not suck the material. Turn the grey knob (clockwise) to increase the pressure on the follower plate.

■ ADJUSTMENTS

The material flow rate is too high
↓
Turn the red knob (counterclockwise)
Use a smaller diameter nozzle.

The material flow rate is too low
↓
Turn the red knob (clockwise)
Use a bigger diameter nozzle.
Use a bigger and shorter hose.

7. SHUTDOWN AT END OF WORK

1 - Leave level (14) in a bottom position.
2 - Disconnect the compressed air supply.

The pump must remain full of material, the follower plate being in contact with the material (like a cover) to prevent it from drying.

8. DRUM REPLACEMENT

1 - Fully turn the red knob. (Counterclockwise).
2 - With the grey knob, adjust the pressure (21) up to 1 bar.
3 - Move level (14) to middle position.
4 - Disconnect quick-release fitting (9) and connect it to valve (7).
5 - Open valve (7).
6 - Move up level (14) until the elevator lift up the pump and the drum at 5 cm / 2" from the floor. Then move level (14) to middle position.
7 - Progressively turn the red knob (clockwise) until the plate is disengaged from the drum.
8 - Move up level (14). The pump should raise and the drum should stay down.
9 - To restart the pump, refer to chapter 6.

9. DAILY CARE

■ GUN

Comply with the usual instruction of gun servicing (refer to gun manual).

■ PUMP

Make sure the pump wetting cup is always filled up with T lubricant (this T lubricant will normally be coloured by the paint).

Regularly clean the wetting cup with solvent after having drained the lubricant (unscrew the plug located on the upper body).

If you have to change the drum :

- Check if the plate seal is not damaged.
- Clean top and bottom parts of the follower-plate.

10. TROUBLESHOOTING CHART

TROUBLE	CAUSE	SOLUTION
The pump does not work or stops operating.	Air supplying. Packings of hydraulic piston are stuck. Reversing valve is blocked (motor) Frosting (motor) Nozzle is clogged.	Check air pressure. Clean or replace. Repair. Inject a little oil. Defrost and lubricate using a little oil. Clean.
The pump cycles conti-nuously (drain-valve closed).	No starting up. Empty drum. Valve is blocked.	Increase the pressure on the follower-plate. 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 unproperly drained. Leakage from the suction valve.	Open the drain valve (or press the gun trigger) until material starts coming out regularly. Then close the drain valve (or release the trigger). Check the suction valve.
The pump operates but provides an irre-gular flow rate.	Air in the chamber. Bad tightness of the valves. Drain rod no tight enough. Pressure on the follower plate too low.	Check the fittings. Clean it. Tighten it. Increase the pressure.

11. SERVICING

■ SUCTION VALVE

Unscrew suction tube (24).
Hold feeding rod (25).
Unscrew nut (40).
Remove feeding seat (30), feeding valve (29) and support ring (28).
Make suction valve seat (18), housing (20) and suction valve (A) slide.
Clean the parts. Replace them if necessary.

■ EXHAUST VALVE

Unscrew cylinder (50).
Unscrew feeding rod (25).
Remove exhaust valve (16).
Remove exhaust seat (51).
Clean the parts, reinstall them or remplace exhaust cylinder-seat assembly.

■ UPPER PACKING

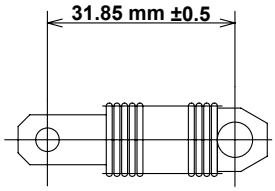
Separate motor piston rod from hydraulic piston (15)
Unscrew wetting-cup (8).
Pull piston (15) upwards to remove upper packing seals (6).
Reinstall parts in reverse order. Be certain seals (6) are installed in proprer direction.
Tighten wetting-cup (8).

After reassembly, fill up the pump with solvent and increase pressure to maximum in the hydraulic section. Then stop the pump and open exhaust valve to depressurize.

Retighten wetting-cup (8) to increase the upper packing tightness by means of an appropriate metallic rod.

■ REVERSING BLOCK (MOTOR)

Disassemble cover (32) by removing screws CHc (33).
Dissociate female yoke (12) from reversing block lever (9).
Dismount reversing block by removing screws (10 and 8).
Reinstall the new reversing block in the reverse order of the disassembly sequence.



➲ **CAUTION : The number of spirals must equally be distributed on each fastening parts in order to get the above dimension.**