INSTRUCTION MANUAL

GEAR PUMP

#107 046 01 107 046 02 107 046 03

107 046 04 107 046 05 107 046 06

107 046 07

Manual : 574.008.112 - 0804

Date : 15/04/08 - Supersede : 20/02/08

Modif. : Update

IMPORTANT : Read and understand all instructions before storing, installing and operating concerned equipment (professional use only).

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INSTRUCTION MANUAL

GEAR PUMP

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Dear Customer,

You are the owner of our new equipment and we would like to take this opportunity to thank you.

To make sure your investment will provide full satisfaction, special care has been taken by KREMLIN REXSON during all designing and manufacturing processes.

To obtain the best result, safe and efficient operation of your equipment, we advice 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.

01. EC DECLARATION OF CONFORMITY

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

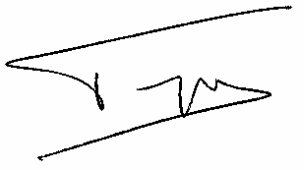
Head office : 150, avenue de Stalingrad 93 245 - STAINS CEDEX - FRANCE

Tel. 33 (0)1 49 40 25 25 - Fax : 33 (0)1 48 26 07 16

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

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

Established in Stains, On March 1st 2003,



Daniel TRAGUS
President

02. WARRANTY

We reserve the right to make changes; these changes may be carried out after the receipt of our order. No claim will be accepted as a consequence of any change carried out in the instruction manuals or in the selection guides.

Our equipment is checked and tested prior to shipment. In the case of a problem arising with the equipment, this must be in writing, within ten days from the delivery date.

KREMLIN REXSON warrants all equipment manufactured bearing its name, to be free from defect in material or workmanship for a period of 12 months (one shift per day or 1800 hours - 1 term reached) from the date of delivery. Work life is based on single shift working - 8 hours per day. Warranty claims for defective items will only be accepted in writing and will be verified and confirmed by us.

The warranty does not cover fair wear tear, damage or wear caused by misuse, improper maintenance or non-observance of our recommendations.

KREMLIN REXSON will repair or replace parts (carriage paid to our plant and accepted as defective by us). We shall not be liable for any losses, resulting from a production breakdown. Upon request, we can carry out service work at your premises; all expenses (travelling and accommodation) for KREMLIN REXSON technicians will be chargeable.

In the event that it is found that equipment has been tampered with, this will invalidate the warranty. Equipment that is bought in will be subject to the supplier's warranty.

03. SAFETY INSTRUCTIONS

PICTOGRAMS

	NIP HAZARD		READ THE USER INSTRUCTIONS MANUAL
	DO NOT EXCEED THIS PRESSURE		WARNING MOVING ELEVATOR
	WARNING MOVING SHOVEL		WARNING MOVING PARTS
	HIGH PRESSURE HAZARD		RELIEF OR DRAIN VALVE
	WARNING HOSE UNDER PRESSURE		WEAR OF GLOVE IS OBLIGATORY
	WEAR GLASSES OBLIGATORY		PRODUCT VAPOR HAZARDS
	ELECTRICAL HAZARD		WARNING FIRE HAZARDS
	WARNING HOT PARTS OR AREAS		EXPLOSION HAZARDS
	GROUNDING		WARNING (USER)
	WARNING SERIOUS INJURIES		

GENERAL SAFETY INSTRUCTIONS

Before using the equipment, please ensure the operator has read and understood all instructions and warnings of this instruction manual as well as the instructions in the manuals of the different parts and accessories.

Incorrect use may result in injury. This equipment should only be used by trained operators. It must be used only for what it has been designed for. Never modify the equipment. The parts and accessories supplied must be regularly inspected. Defective or worn parts must be replaced.

Never exceed the components maximum working pressure of the equipment.

Comply with regulations concerning safety, fire risks, electricity in force in the country of final destination of the material. Use only products or solvents compatible with the parts in contact with the material (refer to data sheet of the material manufacturer).

PRESSURE HAZARDS

Current legislation requires that an **air relief** shut off valve is mounted on the supply circuit of the pump motor to let air off when closing the supply circuit. Without this precaution, the motor residual air of the motor may let the pump beat and cause a serious injury.

Please ensure that, a **material drain valve** is mounted on the material circuit to drain it (after shutting down air to the motor and the pressure relief) before any servicing on the equipment. These valves must be closed for air and opened for product when processing.

HIGH PRESSURE INJECTION HAZARDS

When working with high pressure equipment, special care is required. Fluid leaks can occur. Then there are injection risks in exposed parts of body that may cause severe injuries or amputations :

- Medical care must be handled immediately if product is injected under the skin or in other parts of the body (eyes, fingers).
- Never point the spray gun at any one. Never try to stop the spray with your hands or fingers nor with rags or similars.
- **Follow the shut down procedure and always depressurize air and fluid circuits** before carrying out any servicing on the gun (cleaning, checking, maintenance of the materail or cleaning of the gun nozzles).
- For the guns equipped with a safety device, always lock the trigger when you do not start the gun.

FIRE - EXPLOSION - SPARKS - STATIC ELECTRICITY HAZARDS

A poor earth connection, inadequate ventilation, sparks or static electricity can cause an explosion or fire. to avoid these risks when using or servicing KREMLIN REXSON equipment, the following safety procedures must be followed :

- ensure a good earth connection and ground the parts to be handled i.e. solvents, materials, components and equipment,
- ensure adequate ventilation,
- keep working area clean and free from waste solvents, chemicals, or solid waste i.e. rags, paper and empty chemicals drums,
- never use electrical switches / power if in an atmosphere of volatile solvent vapour,
- stop working immediately in case of electrical arcs,
- never store chemicals and solvents in the working area.

TOXIC PRODUCT HAZARDS



Toxic products or vapours can cause severe injury not only though contact with the body, but also if the products are ingested or inhaled. It is imperative :

- to know the material products and their risks,
- notified or hazardous materials must be stored in accordance with the regulations,
- the material must be stored in an appropriate container, never place materials in a container where there is a risk o spillage or leakage,
- a procedure must be applied for the safe disposal of waste material. It must comply with all prevailing regulations and legislations of the country where the equipment is to be used,
- protective clothing should always be worn in compliance with the material manufacturers' recommendations,
- depending on the application and chemical safety instructions, safety glasses, gloves, foot wear, protective masks and possible breathing equipment should be worn to comply with the regulations

(Refer to chapter "Safety equipment of KREMLIN selection guide).


CAUTION!

It is forbidden using any solvent or with halogenated hydrocarbon base and also products with these solvents facing **aluminium** or **zinc**. The non-compliance with the instructions may cause explosion hazards causing serious or fatal injuries.

EQUIPMENT REQUIREMENTS

PUMP

Before carrying out any work, it is imperative to get used with the compatibilities of motors with pumps before coupling. The operator shall understand the equipment and the safety instructions. These instructions are available in the manuals of the pumps.


The air motor is designed to be mounted with a pump. Never modify any components or couplings. Where operating, please keep hands away from moving parts. Before starting up the equipment, please read the PRESSURE RELIEF instructions. Please ensure that any relief or drain valves fitted are in good working order.

HOSES

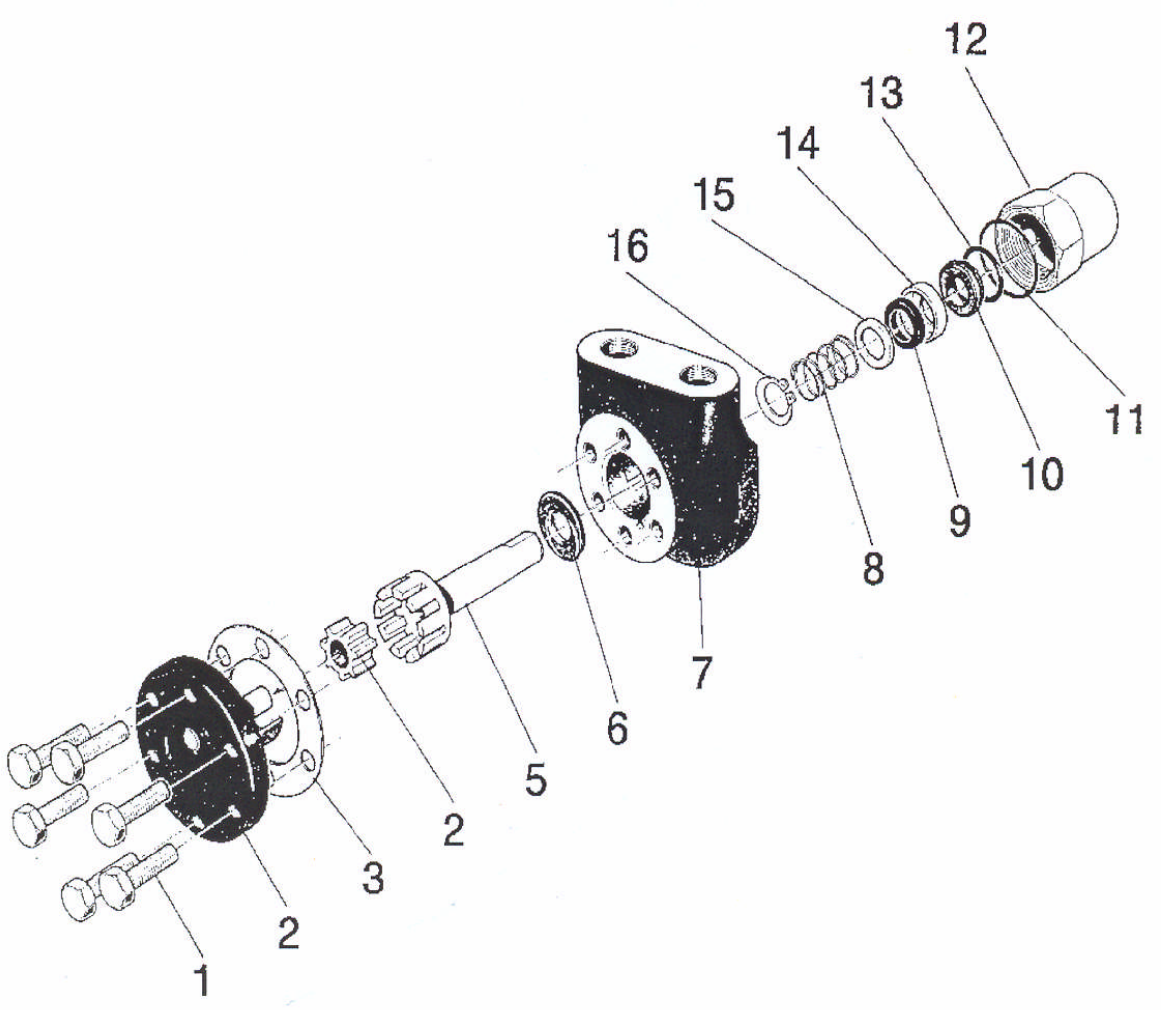
- Keep hoses out of circulation areas, moving parts or hot surfaces,
- Never expose product hoses to temperature higher than + 60°C / 870° F or lower than 0°C / 0° F,
- Never pull or use the hoses to move the equipment,
- Tighten all fittings as well as the hoses before operating the equipment,
- Check the hoses regularly; change them if they are damaged,
- Never exceed the working pressure (WP) indicated on the hose.

USED PRODUCTS

Considering the variety of products that may be used by the users and the impossibility to check off all chemical data, of possible reactions of chemicals to each other and their long term evolution, KREMLIN REXSON can not be considered as liable for :

- the bad compatibility of wetted parts,
- risks for staff and surroundings, for worn or out of order parts, for wrong working of equipments or units, as well as for the qualities of final product,
- the user must know and prevent the possible risks owing to toxic vapours, fires or explosions due to used products. He shall determine the risks of immediate reactions or the cumulative effects pursuant to repeated exposures of the staff,
- KREMLIN REXSON shall not be liable for expenses or claims or psychic injuries or direct or indirect material damages further to the use of chemicals.

04. EXPLODED VIEW



05. PARTS' LIST

Ind	#	Désignation	Description	Bezeichnung	Denominación	Qté
1	-	Vis	Screw	Schraube	Tornillo	6
2	-	Couvercle équipé	Cover assembly	Ausgerüsteter Deckel	Tapa equipada	1
3	107 020 25	Joint de couvercle pour pompe BP	Cover seal for BP pump	Deckeldichtung für BP Pumpe	Junta de tapa para bomba BP	1
3	107 020 26	Joint de couvercle pour pompe BG	Cover seal for B**G** pump	Deckeldichtung für BG Pumpe	Junta de tapa para bomba BG	1
5	-	Rotor	Rotor	Rotor	Rotor	1
6	-	Rondelle	Washer	Scheibe	Arandela	1
7	-	Corps	Body	Körper	Cuerpo	1
8	*	Ressort	Spring	Feder	Muelle	1
9	*	Joint	Seal	Dichtung	Junta	1
10	*	Bague carbure fixe	Fixed carbide ring	Befestigter Ring aus Karbid	Anillo fijo de carburo	1
11	*	Joint torique	O'Ring	O'Ring	Junta tórica	1
12	107 020 15	Cloche	Cover	Glocke	Tapa	1
13	*	Joint	Seal	Dichtung	Junta	1
14	*	Bague carbure mobile	Movable carbide ring	Beweglicher Ring aus karbid	Anillo móvil de carburo	1
15	*	Rondelle	Washer	Scheibe	Arandela	1
16	*	Circlips	Clip	Sicherungsring	Anillo truarc	1

* = Pièces inclues dans la pochette de joints réf. 10702021
Parts included in seals kit P/N 10702021
Diese Teile werden in den Dichtungssatz (Bezug 10702021) gesteckt
Piezas incluidas en el kit de juntas ref. 10702021

06. GENERAL FEATURES

PUMP PART NUMBER	BODY MARKING	FLOW RATE	INLET / OUTLET DIAMETER	MAXIMUM PRESSURE BAR	MAXIMUM SPEED TR/MN	WEIGHT KG / LB
107 046 01	BG.PDC	4,17	1/2" G	40	2800	2,5
107 046 02	BG.PPDC	2,00	1/2" G	40	2800	2,5
107 046 03	B.PDC	0,77	3/8" G	40	1500	1,9
107 046 04	BG.MDC	6,30	1/2" G	40	2800	2,5
107 046 05	B.PPDC	0,58	3/8" G	40	1500	1,9
107 046 07	BG.GDC	8,25	1/2" G	40	1500	2,5

07. MAINTENANCE

Before any intervention on the pump, you **must** isolate it by means of a safety valve (compulsory upstream of the pump) and ensure that the working pressure has been drained to avoid risks of serious injuries : spatters especially in eyes or injections under the skin can cause a blood poisoning when using such material.

The maintenance consists in checking seals as well as the parts of the pump following fluid leaks or only for a preventive maintenance.

We advice you to change the parts with an unfair wear and tear.

08. STARTING THE PUMP

The pumps are checked and tested in our plant. They are lubricated inside at the end of the test. Before starting the material, you must eliminate the protective oil pumping the solvent (high-flash naptha or chloric solvent for example) if it is incompatible with the materials to be used.

09. DISASSEMBLY

First, **carry out the depressurization procedure**; remove the suction and exhaust systems, disassemble then put aside the pump.

- Unscrew the cover (12),
- Remove, check and change if necessary the seal (11),
- Take off the fixed carbide ring (10) and the seal (13) from the cover,
- Remove the ring assembly (10 & 14),
- Remove the seal (9) from the moving carbide ring (14),
- Put aside the ring (14), the spring (8) and the ring (16),
- Untighten the screws (1),
- Put aside the cover with its gear (2),
- Remove, check and change if necessary the cover ring (3),
- Take off the rotor (5) by means of a mallet, then the washer (6) and the body (7).

10. ASSEMBLY

- Install the washer (6) on the rotor (5) (smooth side of the washer on the body), then insert the whole into the body (7),
- Mount the gear (2) and the seal (3) on the cover assembly.
- Insert the shaft of the rotor assembly into the boring of the body holding the cover assembly (**the axis of the little gear must be run to the top**).
- Tighten the screws (1).
- Install the seal (11) on the body.
- Mount the ring (16) 1 mm from the body,
- Mount the spring (8) on the shaft of the motor, supporting the ring, then the washer (15).
- Insert the seal (9) into the moving carbide ring (14).
- Oil a little bit the shaft and the bright front of the ring then install the moving carbide ring assembly on the shaft.
- Install the seal (13) on the fixed carbide ring (10), then mount the whole on the shaft.
- Place the cover (12) on the packing. Make sure ball is correctly located on the notch on the upper front of the cover.
- Screw and tighten slightly the cover assembly on the pump body. The rotor is turning easily.

NOTA : Check the assembly resting on a tube on the front of the fixed carbide ring (10). An axial displacement of some tenth of millimetre is noticed when the packing is correctly mounted.