



## INSTRUCTION MANUAL

# FLUID SECTION, model 4 VALVES 75 cc

for P85 proportioning system

**# 105 395 0001**

Manual : 574.276.112 - 1305

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### TRANSLATION OF THE ORIGINAL MANUAL

**IMPORTANT : *Before assembly and start-up, please read and clearly understand all the documents relating to this equipment (professional use only).***

THE PICTURES AND DRAWINGS ARE NON CONTRACTUAL. WE RESERVE THE RIGHT TO MAKE CHANGES WITHOUT PRIOR NOTICE.

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**INSTRUCTION MANUAL**  
**FLUID SECTION, model 4 VALVES**

**SUMMARY**

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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 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.

## 01. 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.

## 02. SAFETY INSTRUCTIONS

### GENERAL SAFETY INSTRUCTIONS



**CAUTION :** The equipment can be dangerous if you do not follow our instructions concerning installation and servicing described in this manual and in accordance with applicable European standards and local national safety regulations.

Please carefully read all the instruction literature before operating your equipment.

**Only trained operators can use the equipment** (To acquire an essential training, please contact the "KREMLIN REXSON University" training center - Stains).

The foreman must ensure that the operator has understood the safety instructions for this equipment as well as the instructions in the manuals for the different parts and accessories.

Read carefully all instruction manuals, label markings before operating the equipment.

Incorrect use may result in injury. This equipment is for professional use only. 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.

**Guards (air motor cover, coupling shields, housings,...) have been designed for a safe use of the equipment.**

**The manufacturer will not be held responsible for bodily injury or failure and / or damage to property due to removal or partial removal of the guards.**

**Never exceed the equipment components' maximum working pressure.**

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

### PICTOGRAMS

|                       |                             |                         |                              |                             |                            |
|-----------------------|-----------------------------|-------------------------|------------------------------|-----------------------------|----------------------------|
| A                     | D                           | F                       | E                            | C                           | G                          |
| NIP HAZARD            | WARNING MOVING ELEVATOR     | WARNING MOVING PARTS    | WARNING MOVING SHOVEL        | DO NOT EXCEED THIS PRESSURE | HIGH PRESSURE HAZARD       |
| H                     | J                           | L                       | K                            | I                           | O                          |
| RELIEF OR DRAIN VALVE | WARNING HOSE UNDER PRESSURE | WEAR GLASSES OBLIGATORY | WEAR OF GLOVES IS OBLIGATORY | PRODUCT VAPOR HAZARDS       | WARNING HOT PARTS OR AREAS |
| N                     | P                           | R                       | S                            | U                           | T                          |
| ELECTRICAL HAZARD     | WARNING FIRE HAZARDS        | EXPLOSION HAZARDS       | GROUNDING                    | WARNING (USER)              | WARNING SERIOUS INJURIES   |

## 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.
- use paint whose flash point is the highest possible to prevent from any formation of gas and inflammable vapours (refer to materials' safety instructions),
- install a cover on the drums to reduce the diffusion of gas and vapours in the spraybooth.

## TOXIC PRODUCT HAZARDS

Toxic products or vapours can cause severe injury not only through 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 of 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, hearing protective earplug, 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 to use material containing high concentrations of halogenated hydrocarbon solvents with **aluminium** or **zinc fillers**. Non-compliance with the instructions may cause explosion risk causing serious or fatal injury.



## EQUIPMENT REQUIREMENTS

**Guards (air motor cover, coupling shields, housings,...) have been designed for a safe use of the equipment.**  
**The manufacturer will not be held responsible for bodily injury or failure and / or damage to property due to removal or partial removal of the guards.**

### **PUMP**



Before carrying out any work, it is imperative to read and clearly understand the disassembly and reassembly instructions before servicing. The operator must understand the equipment and the safety instructions. These instructions are available in the equipment manuals.



The air motor is designed to be mounted with a pump. Never modify any components or couplings. When 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 / 140° F or lower than 0°C / 32° 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 maximum working pressure (MWP) indicated on the hose.

## USED PRODUCTS

Considering the wide variety of products that are available and can be used in our equipment it is impossible to check and make recommendations for all chemical data, regarding the risks of possible chemical attack and their long term chemical reaction

KREMLIN REXSON can not be held liable for :

- Compatibility of wetted parts,
- Risks to staff and the surroundings,
- for worn or defective parts, for faulty equipment or units, or the quality of final product.

It is the responsibility of the user to know and prevent any possible risks such as toxic vapours, fires or explosions. He shall determine the risks of immediate reactions or pursuant to repeated exposures of the staff,

KREMLIN REXSON shall not be liable for physical injuries, direct or indirect material damages caused by the use of chemicals.

### 03. TECHNICAL FEATURES

|                                  |   |
|----------------------------------|---|
| Version                          | Double effect: exhaust is carried out in the 2 translations stages. |
| Capacity                         | 37.5 cc   |
| Delivery per cycle               | 75 cc   |
| Fluid inlet and outlet plugs     | Ø 3/4" G F  |
| Maximum stroke                   | 132 mm / 5"   |
| Nominal stroke                   | 120 mm / 4.7"   |
| Material of the plunger          | Hard chrome   |
| Material of the cylinder         | Hard chrome (thickness = 0.06 mm / 0.0024" )                        |
| Material of the valves with seat | HRc60 treated steel   |
| Material of the cup seals        | PTFE G  |
| Material of the piston seals     | PTFE G  |
| Weight                           | 28 Kg / 62 lb   |

### 04. START UP

The pumps are tested in our workshop with lubricant.

Before starting up, you must flush the pump with the appropriate solvent.

**NOTA** : Before operating the equipment, refer to motor instruction manual.

## 05. DISASSEMBLY / ASSEMBLY

First, flush the pump, then remove the suction and pump outlet systems as well as the different equipments near the pump.



**Before any intervention on the pump, please carry out the release pressure and drain general instructions.**

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**The material is manufactured under the ATEX agreement and can not be modified. KREMLIN REXSON will not be held responsible for any failure to comply with that instruction**

To prevent from injuries, material injections, injuries due to moving parts or sparks during the stopping of the system, the assembly, the cleaning or changing of the nozzle, **you must follow the stages hereafter** before intervening :

- Close the guns,
- Shut off the air inlet using the pressure release to evacuate the residual air.
- Move the gun near to a metallic drum to get back the fluid. Keep it against the drum to maintain the grounding (if necessary use a wire to ground the metallic drum).
- Open the gun to drain the circuit.
- Open the drain valve of the pump and get back the fluid in a metallic drum correctly grounded.
- Let the drain valve open during the intervention.

**Check the conformity of cabling before intervening.**

### **Fluid section / motor disassembly**

- Stop the pump if possible in high position and shut off motor air supply,
- Carry out a release pressure instructions,
- Disassembly the pump,
- Remove the ring,
- Lift up the sleeve,
- Take off the two half bushes and remove the closing ring,
- Unscrew the 4 fastening screws from the motor and take off the fluid section.

### **Transfer block & inlet valves**

- Unscrew the 4 screws (25),
- Take off the transfer block (24),
- Take off, check and change if necessary the O-Rings (19),
- Unscrew and take off the tightening bushes (6),
- Remove the inlet spacer (7),
- Take off, check and change if necessary the valves (5),
- Take off, check and change if necessary the copper seals (13).

Reinstall the parts in the reverse order of the disassembly sequence.

**NOTA** : Check the seat of each valve. If the seat is damaged, change it.

### **Transfer block & outlet valves**

- Unscrew the 4 screws (25),
- Take off the transfer block (24),
- Take off, check and change if necessary the O-Rings (19),
- Unscrew and take off the tightening bushes (6),
- Take off, check and change if necessary the valves (5),
- Take off, check and change if necessary the copper seals (13).
- Remove the outlet spacer (12),
- Take off, check and change if necessary the seals (21),
- Unscrew the safety valve (15).

Reinstall the parts in the reverse order of the disassembly sequence.

**NOTA** : Check the seat of each valve. If the seat is damaged, change it.

### **Lower flange & cup**

- Drain then remove the lubrication assembly which consists on :
  - the tank plug (20)
  - the tank (18)
  - the elbow (17)
  - the sleeve (16)
- Unscrew the screw (10) then remove the protective tube (11),
- Untighten the lower cup nut (9),
- Unscrew the nuts (30),
- Take off the washers (29) and the tie-rods (23),
- Remove the lower valve assembly,
- Unscrew the cup nut (9),
- Take off, check and change if necessary the O-Rings (32 & 31),
- Take off, check and change if necessary in the following order :
  - the first 'M' washer (35),
  - the first seal (36),
  - the 'F' washer (37),
  - the 8 last seals (36),
  - the second 'M' washer (35).

Reinstall the parts in the reverse order of the disassembly sequence.

**NOTA** : If the piston has scratches, change it as well as the seals (36).

### **Upper flange & cup**

- - Drain then remove the lubrication assembly which consists on :
  - the tank plug (20)
  - the tank (18)
  - the elbow (17)
  - the sleeve (16)
- Unscrew the connecting axis (34),
- Take off the cylinder (3),
- Take off, check and change if necessary the O-Rings (22),
- Untighten the cup nut (2),
- Take off, check and change if necessary the O-Rings (32 & 31) and the seal (33),
- Remove the piston assembly downwards,
- Take off the upper flange assembly,
- Unscrew the cup nut (2),
- Take off, check and change if necessary in the following order :
  - the first 'M' washer (35),
  - the first seal (36),
  - the 'F' washer (37),
  - the 8 last seals (36),
  - the second 'M' washer (35).

Reinstall the parts in the reverse order of the disassembly sequence.

**NOTA** : if the piston has scratches, change it as well as the seals (36).

### **Piston & piston seals**

- Remove the 2 rings (27),
- Take off, check and change if necessary in the following order :
  - the spacers,
  - the seals (39),
  - the seals (40),
- Take off the piston rod (1).

Reinstall the parts in the following order :

- Prepare the piston (1) to install the seals (40)
- Install the seals (39),
- Install the spacer in the lower part of the piston,
- Install the ring (27) on the piston rod,
- Lubricate the seals,
- Install the other seals as well as the spacer on the piston (1),
- Install the ring (27),
- Lubricate the cylinder (3).

**NOTA** : if the cylinder has scratches, change it as well as the seals (39 & 40).

### **Particular instructions during the assembly :**

- Use Loctite 122 glue for the assembly of the tightening bushes (6),
- Use Loctite 222 glue for the assembly of the connecting axis (34) and the piston rod (1),
- Screwing torque of the nuts (30) : 120 N.m / 88.5 ft/lbs

## 06. TROUBLESHOOTING

**Guards (air motor cover, coupling shields, housings,...) have been designed for a safe use of the equipment.**

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### **Not enough material or pressure drop :**

- There is a pressure drop or the main air supply is shut off,
- The pump is shut off,
- Incorrect operating of the motor
- There is not enough material on the drum,
- The gun nozzle is clogged,
- The filters must be clean,
- If there is a pressure drop, check the valves.

### **The pump still operates but the gun is closed :**

- There is not enough material,
- Check seals of pump and valves are in good condition.

### **Simple effect working**

If the pump does not exhaust systematically, it means that one of the valves does not close. Check the condition of the valve and of the seat and make sure there is no impurity that prevents the closing of the valve.

## 07. MAINTENANCE



### **WARNING!**

Before any intervention, please follow the pressure release instructions and read carefully the safety instructions.

During a long duration shutdown, stop the pump when the piston is in low position.

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### ■ PREVENTIVE MAINTENANCE

#### **Daily care :**

Check if there are leaks. Check that the hoses are in good conditions.

Keep the piston of the pumps clean to prevent from material drying.

Check the PE level inside the shell (keep the level halfway up). Fill it if necessary. The lubricant will normally be coloured by the material.

Tighten moderately if necessary the cup nut with the wrench provided.

Check the tightening of the different parts.

Manipulate (open and close) all the valves of the installation.

Keep the spray area clean.

#### **Bimonthly care :**

If the lubricant is excessively coloured in the cup, fill the cup with new lubricant. Leave the cup clean and clean it regularly with lubricant after having drained the lubricant.

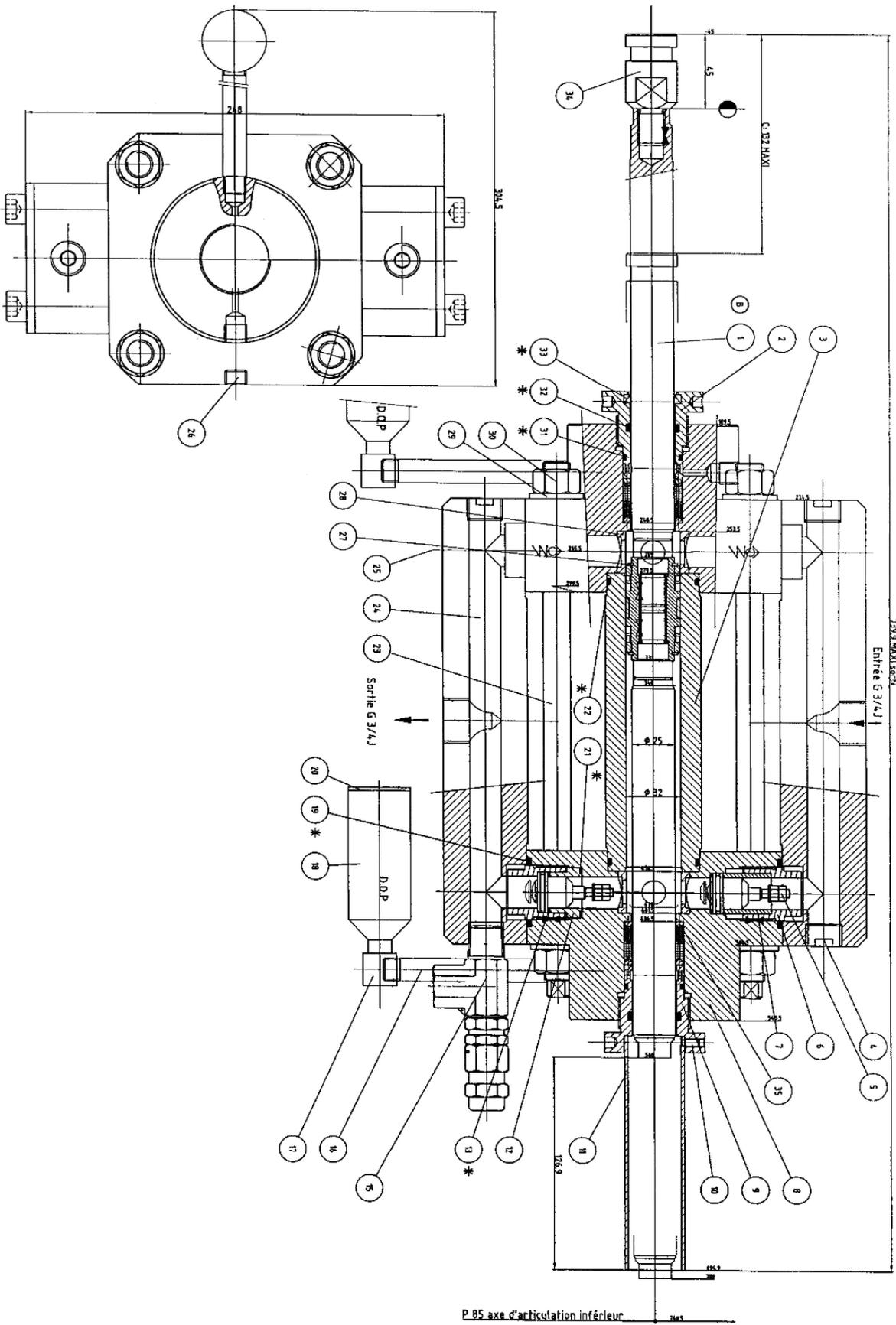
### ■ CURATIVE MAINTENANCE

We advice you to schedule a systematic maintenance after a given working time. The rhythm is defined by the maintenance staff of the user and is done according to the product, the rate of work and the regular using pressure.

#### **Before intervening on the equipment :**

- **Clean the parts with the appropriate cleaning solvent,**
- **Install new seals if necessary after having lubricated them,**
- **Lubricate the piston and the inside of the cylinder to prevent from damaging the seals,**
- **Install new parts if necessary.**

# 08. EXPLODED VIEW & SPARE PARTS' LIST



■ SPARE PARTS' LIST

| Ind | #              | Désignation                                 | Description                                   | Bezeichnung                                | Denominación                                      | Qté      |
|-----|----------------|---|---|--|---|----------|
| 1   | 209 892        | Piston                                      | Piston  | Kolben                                     | Pistón  | 1        |
| 2   | 209 895        | Ecrou de presse-étoupe supérieur            | Upper cup nut                                 | Obere Zugentlastungsmutter                 | Tuerca de prensa estopa superior                  | 1        |
| 3   | 209 891        | Cylindre                                    | Cylinder                                      | Zylinder                                   | Cilindro  | 1        |
| 4   | 906 333 103    | Bouchon 1/2"G                               | Plug, 1/2"G                                   | Verschluß 1/2"G                            | Tapón, 1/2"G                                      | 3        |
| 5   | 105 792        | Clapet                                      | Valve   | Ventil                                     | Válvula   | 4        |
| 6   | 209 896        | Douille de serrage                          | Tightening bush                               | Klemmenhülse                               | Boquilla de apriete                               | 4        |
| 7   | 209 897        | Entretoise d'entrée                         | Inlet spacer                                  | Distanzstück des Eingangs                  | Tirante de entrada                                | 2        |
| 8   | 209 890        | Bride                                       | Flange  | Flansch                                    | Brida   | 2        |
| 9   | 209 915        | Presse-étoupe inférieur                     | Lower cup nut                                 | Untere Zugentlastungsmutter                | Tuerca de prensa estopa inferior                  | 1        |
| 10  | 88 251         | Vis, M5x10                                  | Screw, M5x10                                  | Schraube, M5x10                            | Tornillo, M5x10                                   | 1        |
| 11  | 209 921        | Tube de protection                          | Protective tube                               | Schutzröhre                                | Tubo de protección                                | 1        |
| 12  | 209 898        | Entretoise de sortie                        | Outlet spacer                                 | Distanzstück des Ausgangs                  | Tirante de salida                                 | 2        |
| *15 | 106 530        | Soupape de sécurité (voir Doc. 574.114.111) | Safety valve (refer to Doc. 574.114.112)      | Sicherheitsventil (siehe Dok. 574.114.113) | Válvula de seguridad (consultar Doc. 574.114.114) | 1        |
| 16  | 207 812        | Manchette                                   | Sleeve  | Manschette                                 | Manguito  | 2        |
| 17  | 552 431        | Coude, MF 1/4"                              | Elbow   | Winkelnippel                               | Codo  | 2        |
| 18  | 107 011 06     | Réservoir / Cartouche                       | Container                                     | Behälter                                   | Bidón   | 2        |
| 20  | 107 011 10     | Bouchon de reservoir / Couvercle            | Container plug                                | Behälterstopfen                            | Tapón de bidón                                    | 2        |
| 23  | 209 902        | Tirant                                      | Tie rod                                       | Stehbolzen                                 | Tirante   | 4        |
| 24  | 209 908        | Bloc de transfert                           | Transfer block                                | Übergangsblock                             | Bloque de traslado                                | 2        |
| 25  | 88 746         | Vis, CHc M 12x65                            | Screw, model CHc M 12x65                      | Schraube CHc M 12x65                       | Tornillo, tipo CHc M 12x65                        | 8        |
| 26  | 906 333 102    | Bouchon, 1/4"                               | Plug, 1/4"                                    | Verschluß, 1/4"                            | Tapón, 1/4"                                       | 6        |
| 27  | 88 699         | Circlips                                    | Ring  | Sicherungsring                             | Anillo truarc                                     | 2        |
| 28  | 209 894        | Entretoise                                  | Spacer  | Distanzstück                               | Tirante   | 2        |
| 29  | 91 405         | Rondelle                                    | Washer  | Scheibe                                    | Arandela  | 8        |
| 30  | 953 010 025    | Ecrou HM16                                  | Nut, model HM16                               | Mutter HM16                                | Tuerca, tipo HM16                                 | 8        |
| 34  | 205 886        | Axe d'attelage                              | Connecting axis                               | Verbindungsachse                           | Eje de enganche                                   | 1        |
| 35  | 209 901        | Rondelle presse-joint M                     | M washer                                      | AG Scheibe                                 | Arandela prensa junta M                           | 4        |
| -   | 209 893        | Entretoise                                  | Spacer  | Distanzstück                               | Tirante   | 2        |
| -   | 551 235        | Réduction M 1/2" - F 1/4"                   | Adapter M 1/2" - F 1/4"                       | Reduziernippel AG 1/2" - IG 1/4"           | Reducción M 1/2"- H 1/4"                          | 1        |
| -   | 000 972 025    | Raccord produit droit M 1/4 NPT - M 1/2 JIC | Straight fluid fitting, M 1/4 NPT - M 1/2 JIC | Gewindenippel AG 1/4 NPT - AG 1/2 JIC      | Racor recto producto M 1/4 NPT - M 1/2 JIC        | 1        |
| *   | <b>105 396</b> | <b>Pochette de joints</b>                   | <b>Seal kit</b>                               | <b>Dichtungssatz</b>                       | <b>Bolsa de juntas</b>                            | <b>1</b> |

\* Pièces de maintenance préconisées.

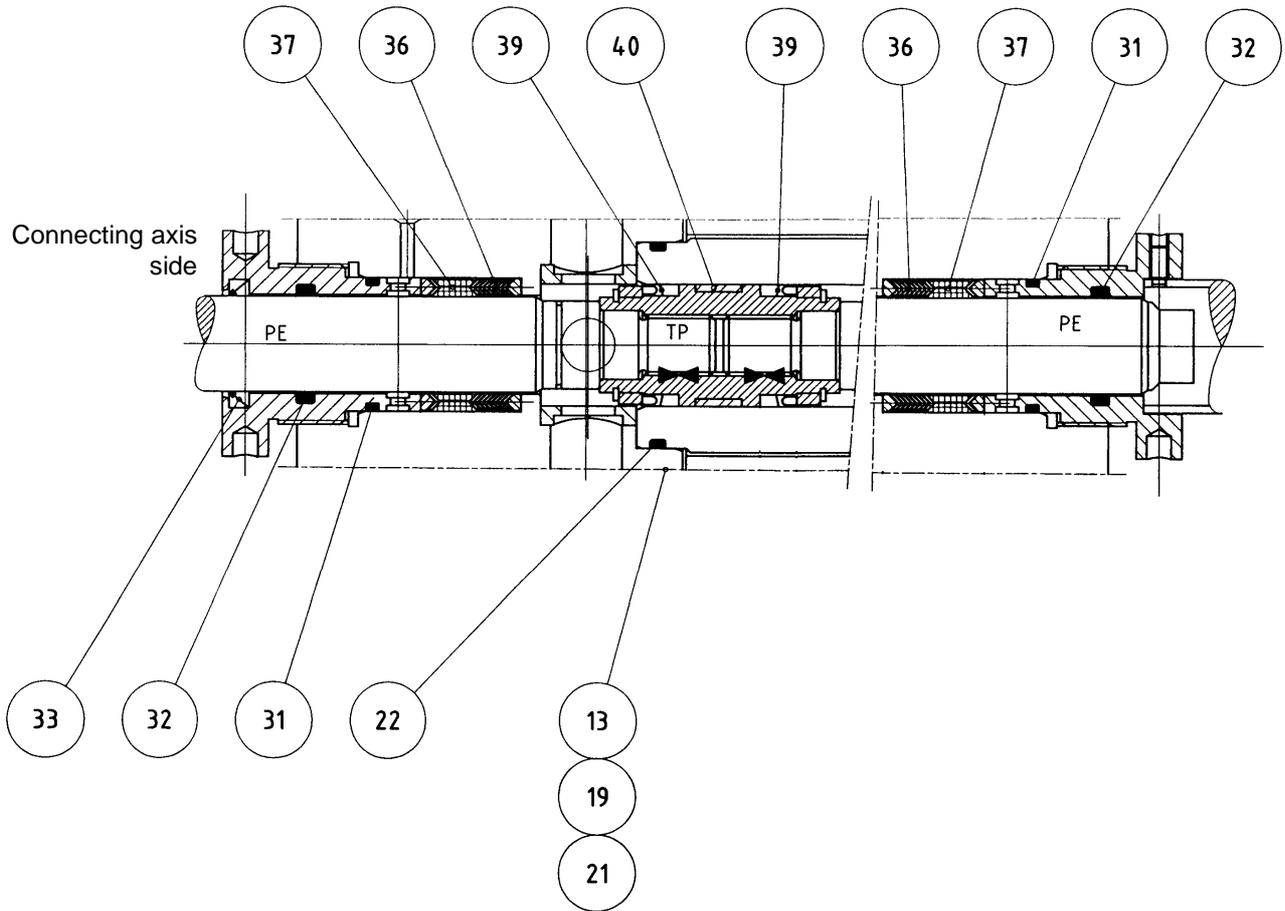
\* Preceding the index number denotes a suggested spare part.

\* Bezeichnete Teile sind empfohlene Ersatzteile.

\* Piezas de mantenimiento preventivas.

■ PACKAGE OF SEALS' COMPOSITION

# 01 = Package of seals # 105 396



| Ind | #       | Désignation             | Description  | Bezeichnung           | Denominación            | Qté |
|-----|---------|-------------------------|--------------|-----------------------|-------------------------|-----|
| *16 | NC / NS | Joint cuivre            | Copper seal  | Dichtung aus Kupfer   | Junta de cobre          | 4   |
| *19 | NC / NS | Joint torique FKM       | FKM O-Ring   | FKM - O-Ring          | Junta tórica FKM        | 4   |
| *21 | NC / NS | Joint cuivre            | Copper seal  | Dichtung aus Kupfer   | Junta de cobre          | 2   |
| *22 | NC / NS | Joint torique FKM       | FKM O-Ring   | FKM - O-Ring          | Junta tórica FKM        | 2   |
| *31 | NC / NS | Joint torique FKM       | FKM O-Ring   | FKM - O-Ring          | Junta tórica FKM        | 2   |
| *32 | NC / NS | Joint torique FKM       | FKM O-Ring   | FKM - O-Ring          | Junta tórica FKM        | 2   |
| *33 | NC / NS | Joint racleur           | Scraper seal | Abgekratzte Dichtung  | Junta rascador          | 1   |
| *36 | NC / NS | Joint PTFE graphité     | PTFE G seal  | Graphit PTFE Dichtung | Junta PTFE grafitado    | 14  |
| *37 | NC / NS | Rondelle presse-joint F | F washer     | IG Scheibe            | Arandela prensa junta H | 2   |
| *39 | NC / NS | Joint                   | Seal         | Dichtung              | Junta                   | 2   |
| *40 | NC / NS | Joint                   | Seal         | Dichtung              | Junta                   | 2   |

- \* Pièces de maintenance préconisées.
- \* Preceding the index number denotes a suggested spare part.
- \* Bezeichnete Teile sind empfohlene Ersatzteile.
- \* Piezas de mantenimiento preventivas.

- NC : Non commercialisé.
- NS : Denotes parts are not serviceable.
- NS : Bezeichnete Teile gibt es nicht einzeln, sondern nur komplett .
- NS : no suministrado.