INSTRUCTION MANUAL

BALL FLUID SECTIONS

'MAJOR'

416cc / 14.1 oz

105 175 01 xx

105 175 03 xx

105 175 10 xx

Manual : 574.297.112 - 1401
'PMP21'

Date : 08/01/14 - Supersede : 19/11/07

Modif.: §3 + § 10 Drawings & Ind. 7C

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).***

KREMLIN - REXSON
150, avenue de Stalingrad
93 245 - STAINS CEDEX – France
☎ *: 33 (0)1 49 40 25 25* *Fax : 33 (0)1 48 26 07 16*

www.kremlin-rexson.com

INSTRUCTION MANUAL

BALL FLUID SECTIONS 'MAJOR' - 416 cc / 14.1 oz

TABLE OF CONTENTS

Dear Customer,

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

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.

1. 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.

2. SAFETY INSTRUCTIONS

GENERAL SAFETY INSTRUCTIONS

CAUTION : The equipment can be dangerous if you do not use it according to the rules mentioned in this instruction manual. Read carefully all the instructions hereafter 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 perfectly taken in the safety instructions of this equipment as well as the instructions in the manuals of 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.

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 modify the equipment. The parts and accessories supplied must be regularly inspected. Defective or worn parts must be replaced.

Never exceed the equipment components' maximum working pressure.

Comply with regulations concerning safety, fire risks, electricity 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

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

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 material 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, 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 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

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 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 / 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 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 as toxic vapours, fires or explosions due to used products. He shall determine the risks of immediate reactions or pursuant to repeated exposures of the staff.

KREMLIN REXSON shall not be liable for psychic injuries, direct or indirect material damages further to the use of chemicals.

3. INSTALLATION

HANDLING

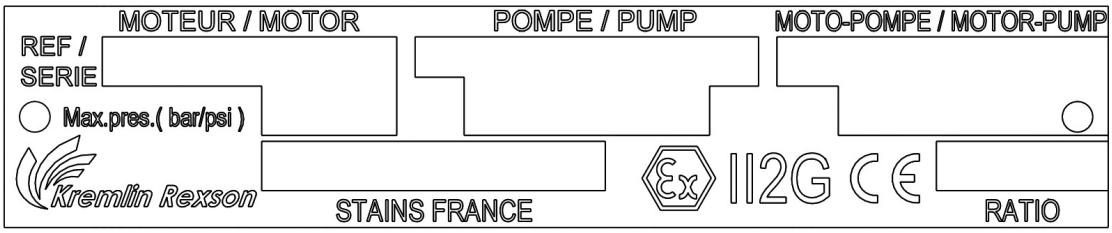
Fluid sections with important weights and dimensions must be handled with suitable means.

STORING

Place the equipment safe from dampness after having closed the different air inlets and ports (plugs).

DESCRIPTION OF THE LABEL MARKING

Marking in accordance with the ATEX directive



KREMLIN REXSON STAINS FRANCE	Name and address of the manufacturer
MOTEUR /MOTOR	-
POMPE / PUMP	Fluid section part number and serial number. The 2 first numbers indicate the manufacturing year.
MOTO-POMPE / MOTOR-PUMP	-
CE	European Conformity
II 2 G	**II** : group II **2** : class 2 Surface equipment meant to area where explosive atmospheres due to gas, vapours, mists are liable to appear from time to time in usual operating. **G** : gas
MAX. PRES. (BAR/PSI)	Maximum pressure
RATIO	Pump pressure ratio

The pumps are designed to be installed in a spray booth.

Associated to a pneumatic motor, the fluid sections must be grounded via the earth cable of that motor.

The earth cable must be grounded to a safe earth.

CONNECTION OF THE SUBSETS

These fluid sections are designed for the coupling of pneumatic or fluid sections' motors with similar stroke.
You must conform to a motor/fluid section association as planned by KREMLIN REXSON.

4. OPERATING

OPERATING USE

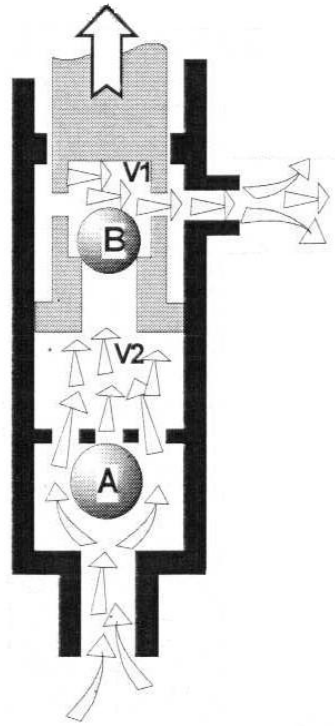
These pumps coupled with pneumatic or hydraulic motors are designed for the transfer, the pouring off or the spraying of different liquid or viscous fluids with a requested outlet flow and pressure.

OPERATING DESCRIPTION

A - The piston goes up = suction + exhaust

When the piston goes up, the **A** ball is opening and the V2 chamber is filled due to the suction of chamber. The **B** ball is pressed on its seat and closes the access to V2. Due to the decreasing of volume available, the fluid of V1 is forced to the outlet.

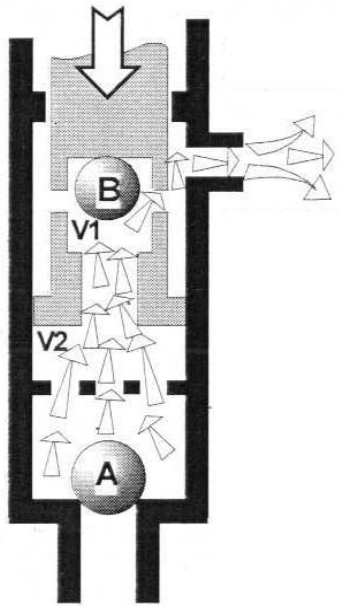
There is exhaust and pressure increasing.



B - The piston goes down = exhaust

The piston goes down. The **A** ball is pressed on its seat. When the piston plunges inside the cylinder, it decreases the volume (V1+V2) and makes once again the fluid evacuate and the pressure increase. The **B** ball goes up and allows the way between V1 and V2.

There is exhaust and pressure increasing.



WARNING!

The frictions due to the displacement of fluid inside the pumps and accessories, as well as the one created by the tightness seals, generate static electricity that may cause fire or explosion. This is why the fluid must be grounded (refer to the instruction manual of the motor for its grounding).

5. USE

Protective clothing (gloves, protective masks, glasses, hearing protective earplug, protective clothing…) should be worn to comply with the recommendations.

The working area must be correctly ventilated.

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.

ADJUSTMENTS

Cup nut :

Before starting the equipment, half fill the cup with T lubricant.

The cup nut must be slightly tightened. A too important tightening would damage the cup seals. A wrench is supplied to allow a correct tightening.

Tightening of the cup :

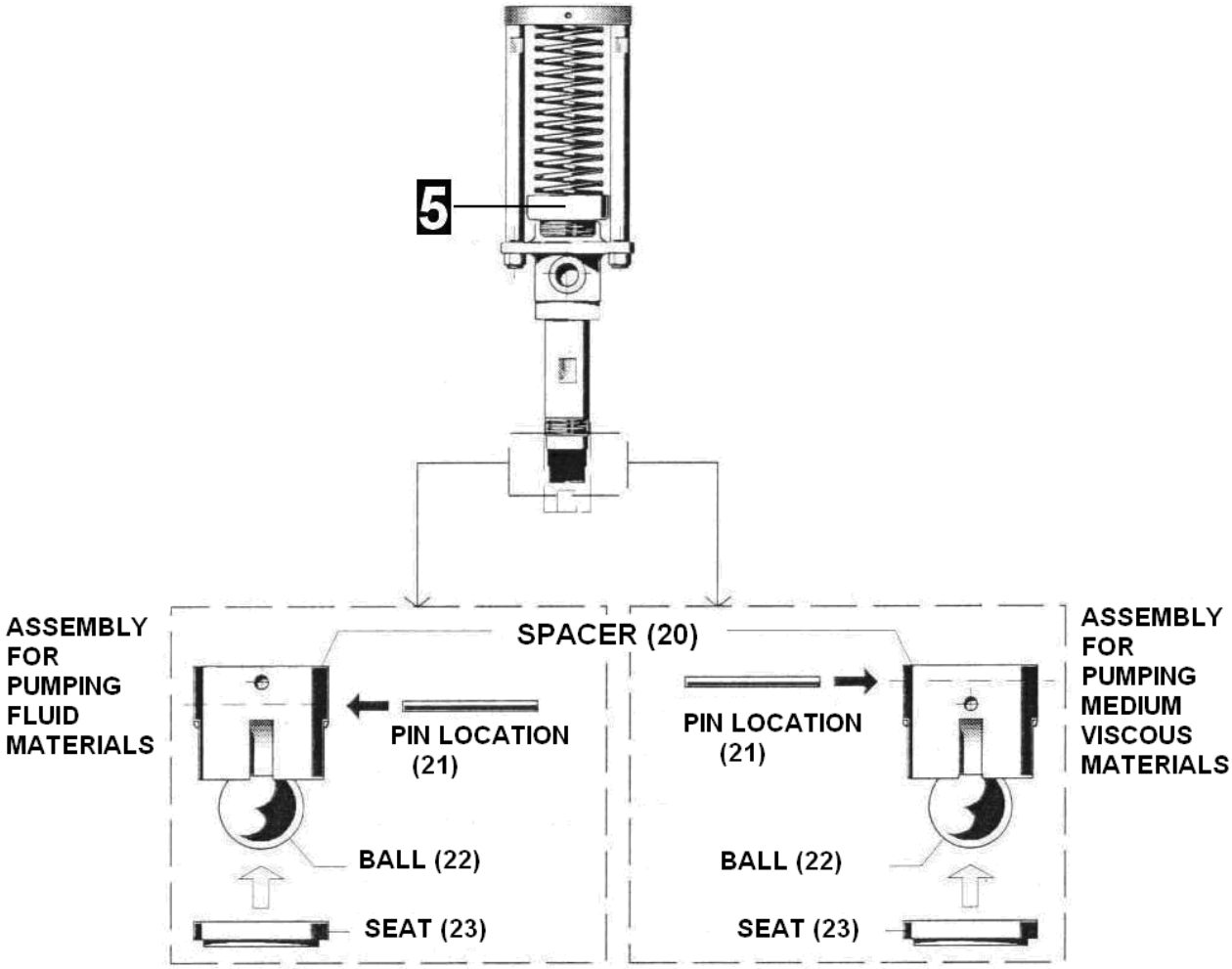
- Fill the cup with T lubricant,
- Operate the pump, then tighten the cup after 10 minutes, then after 1 hour, then after one working day.
- If there is a leak, the cup must be tightened.

Tightening instructions :

- Depressurize the motor (refer to pressure relief instructions),
- Depressurize the fluid circuit (refer to pressure relief instructions),
- Tighten the cup, clean it and fill it with T lubricant,
- Close the pump drain circuits,
- Open the motor air valve.

Adjustment of the suction valve pin :

Depending upon the fluid viscosity to be pumped, locate the lower valve pin as indicated hereafter :



As the pump is designed for the transfer and the spraying of viscous material, the pin is, at the factory, located to its higher position which enables the ball to run out from the seat and makes the material circulate during suction without stopping it.

START UP

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.

The pumps are tested in our workshop with lubricant.

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

At the end of the working day, carry out a flushing with the appropriate solvent. We advice you to stop the fluid section in the "low position" to prevent material spreading on the piston rod.

TROUBLESHOOTING

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

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.

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.

DEFECTS	CAUSES	SOLUTIONS
Leakage at the cup seals	Insufficient tightening of the cup	Screw the cup.
	Bad mounting of the seals	Check the mounting.
	Damaged or worn seals	Replace them.
	Bad choice of the seals' material	Check the compatibility.
The cup seals get rapidly damaged	No lubricant in the cup (pumped product drying on the piston rod)	Clean, replace parts if necessary. During a long duration shutdown, stop the pump, the piston is in the low position.
	Compatibility product / seals	Check.
The pump is stopped	The fluid is polymerized, hardened, dried in the pump	Clean the pump; change parts if necessary.
	The cup is too tightened	Unscrew.
	Broken part(s) in the pump	Remove, check and replace.
The motor seems to operate but the pump does not deliver product	Internal parts of the motor defective	Check the operating of the motor.
	Defective coupling	Check coupling.

DEFECTS	CAUSES	SOLUTIONS
The pump operates but irregular flow	Valve clogged on the seat, incorrectly mounted or worn	Check mounting, state of the parts, tightening of parts and seals.
	Air inlet in the suction circuit	
At stop, pump piston carries on going down	Valve worn or incorrectly mounted	Check and replace parts.
	Plug or drain valve not tightened	
At stop, pump piston carries on going up	Head piston seals or upper valve worn or incorrectly mounted	Check and replace parts.
	Plug or drain valve not tightened	
The piston is going down quickly (simple effect working)	Bad feeding of the pump	Check use parameters of the accessories (pressure on follower plate or suction rod,…). Accessories can be not adapted or clogged.
	Product is too viscous	Bad definition of the pump.
	Lower valve worn	Check and replace parts.
	A foreign product obstructs the lower valve	Clean and check.
The piston goes up quickly	Valve worn or damaged	Check and replace parts.
	A foreign product obstructs the upper valve	Clean and check.
The piston goes out and down at different speeds	Valve, head piston seals or cylinder worn	Replace parts.
	Seals incorrectly mounted or damaged	Check the mounting; change if necessary.
The pump does not deliver enough pressure	Insufficient air pressure to the motor (valve insufficiently open, air leak,…)	Check; adjust.
	Insufficient air inlet on the motor or outlet clogged.(hose not adapted)	Check filter, mounting, hose not adapted.
	Cup or head piston seals too tightened	Check mounting or loosen cup nut.
Abnormal operating after racing or too important temperature	Head piston or cup seals too tightened, damaged	Check mounting; reduce pumping rhythm. Replace parts if necessary.
	Product drum empty	Fill the drum; check the suction circuit and possible air leakage.
Important pressure drop when going down	Lower valve lift too important	Displace the pin.
Fluid leakage from the pump body	Cylinder tightened	Check parts and change them if necessary.
	No seals or seals damaged	

6. 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.

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.

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.

If the pump is fitted with a follower plate : check that the plate seal is in good condition, clean top and bottom parts of the follower plate.

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.

Yearly :

Remove the fluid section completely. Clean the parts. Install new seals during the pump assembly (refer to spare parts' seals).

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. Read the pump disassembly / assembly instructions and the spare parts' list.

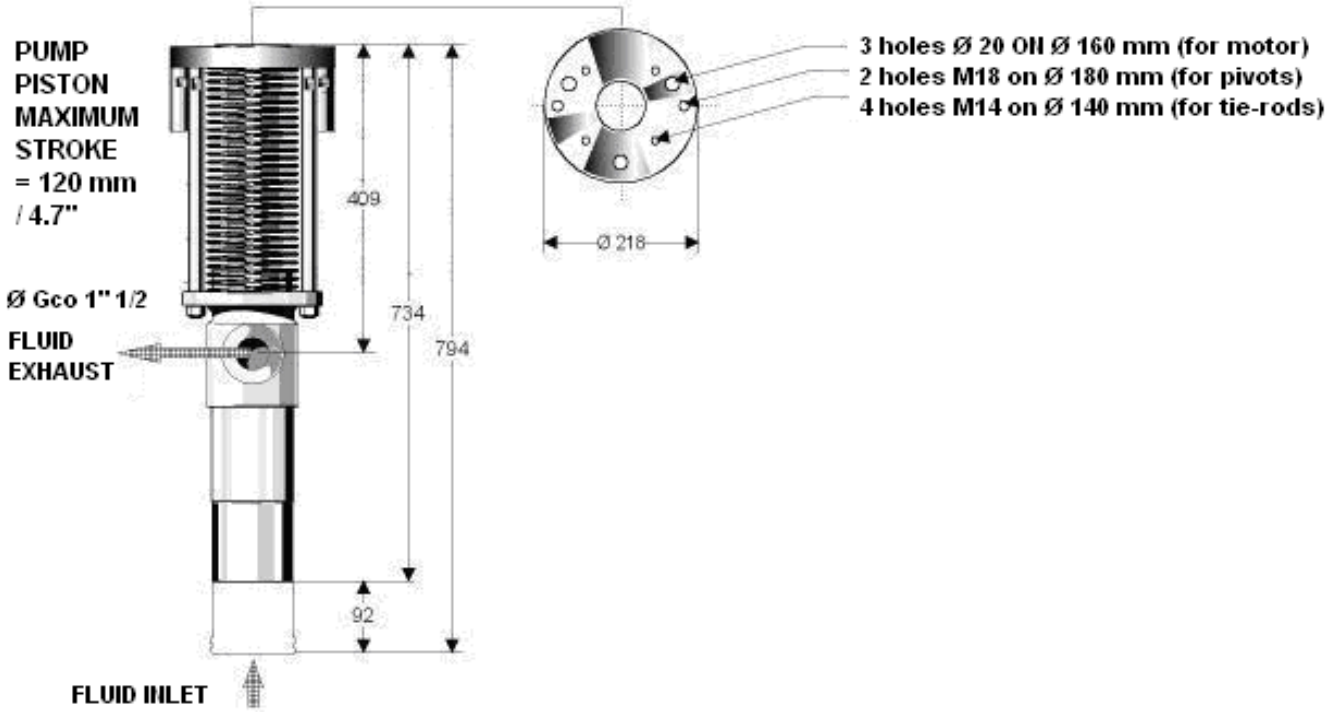
Before intervening on the equipment :

- **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.**

7. CODIFICATION OF THE BALL FLUID SECTIONS - 'MAJOR' 416cc / 14.1 oz

# Fluid sections	Associated motors			Description
	6000	7000	9000	
	16/1	28/1	43/1	Pressure ratio
105 175 01 xx	X	X	X	Standard use
105 175 03 xx	X	X	X	Fluid section for follower plate ∅ 571
105 175 10 xx	X	X	X	Standard use Stainless steel parts in contact with the material

8. SPECIFICATIONS



Features of the fluid sections	# 105 175 01 xx	# 105 175 03 xx	# 105 175 10 xx
Capacity	208 cc / 7 oz		
Delivery per cycle	416 cc / 14.1 oz		
Stroke	120 mm / 4.7"		
Fluid inlet connections	F 1"1/2	Follower plate adaptation, model Ø 105 mm	F 1"1/2
Fluid outlet connections	1"1/2 Gco		
Weight	32 kg / 70.5 lb		
Maximum fluid temperature	80°C / 176°F		
Wetted parts	Stainless steel treated steel / steel / PTFE / tungsten carbide / galvanized electro steel		Stainless steel treated steel / PFTE / tungsten carbide
Packings	Depending upon package of seals		

9. DISASSEMBLY / ASSEMBLY

WARNING!

Before any intervention, please follow the pressure relief and safety instructions.

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.

Disassembly of the fluid section :

- Unscrew the 4 nuts (16) and put aside the flange (1), the tie-rods (14) and the protection (4),
- Clamp the pump horizontally through the body with a vice (7),
- Unscrew the foot-valve body assembly (26) *[for the fluid section, model 105 175 03 xx : unscrew the adapter (32), the 4 screws (40), the flange (33) and the O-Rings (34 & 35)]*. Remove the washer (19),
- Take off the piston rod (15) downwards,
- Put aside the cylinder (10).

Lower valve :

- Push on the ball (22) to take off the spacer (20),
- Take off the seat (23), the O-Rings (24 & 25) and the pin (21),
- Remove the seal (9),
- Clean all the parts, check them; if there are damaged or worn, change them.

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

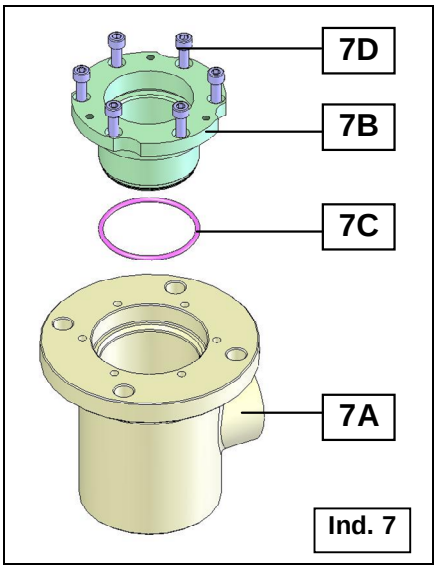
Cup seals

Nota : the pump body (7) consists of a cartridge (7B) to make easier the changing of the seals.

- Unscrew the cup (5),
- Take off the 6 screws (7D) that tighten the cartridge (7B) in the body (7A),
- Take off the cartridge (7B) screwing the extractors in the 3 M 8 holes of the cartridge,
- Take off the washers (6 & 12) and the seals (11),
- Change the seals (11),
- Change the seal (7C).

Clean all the parts, check them; if there are damaged or worn, change them.

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



Piston head (15) :

- Unscrew the seat (18),
- Take off the ball (17), the washers (37 & 39) and the seals (38),
- Clean all the parts, check them; if there are damaged or worn, change them.

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

Complete assembly of the fluid section :

- Lubricate the cup seals and piston head seals,
- Slide the piston rod assembly (15) inside the body (7), push it upwards,
- Screw the cylinder (10) into the body (7),
- Screw the foot-valve body assembly (26) *[for the fluid section, model 105 175 03 xx : screw the adapter (32), the 4 screws (40), the flange (33) and the O-Rings (34 & 35)]*. Tighten slightly.
- Reinstall the protective spring (4), the connecting flange (1) and the tie-rods (14). Screw the 4 nuts (16).
- Couple the fluid section to the pneumatic motor.

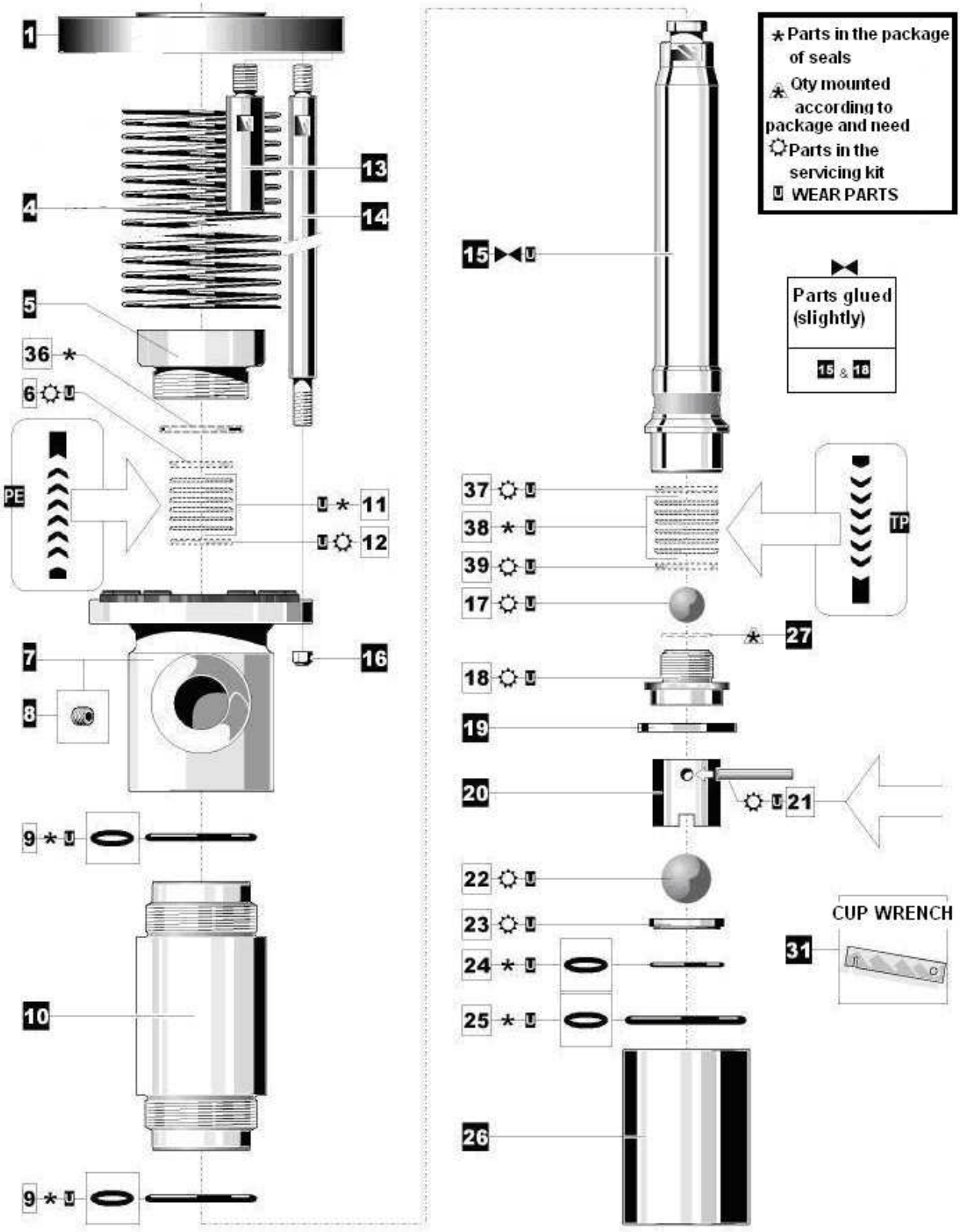
Before intervening on the equipment :

- **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.**

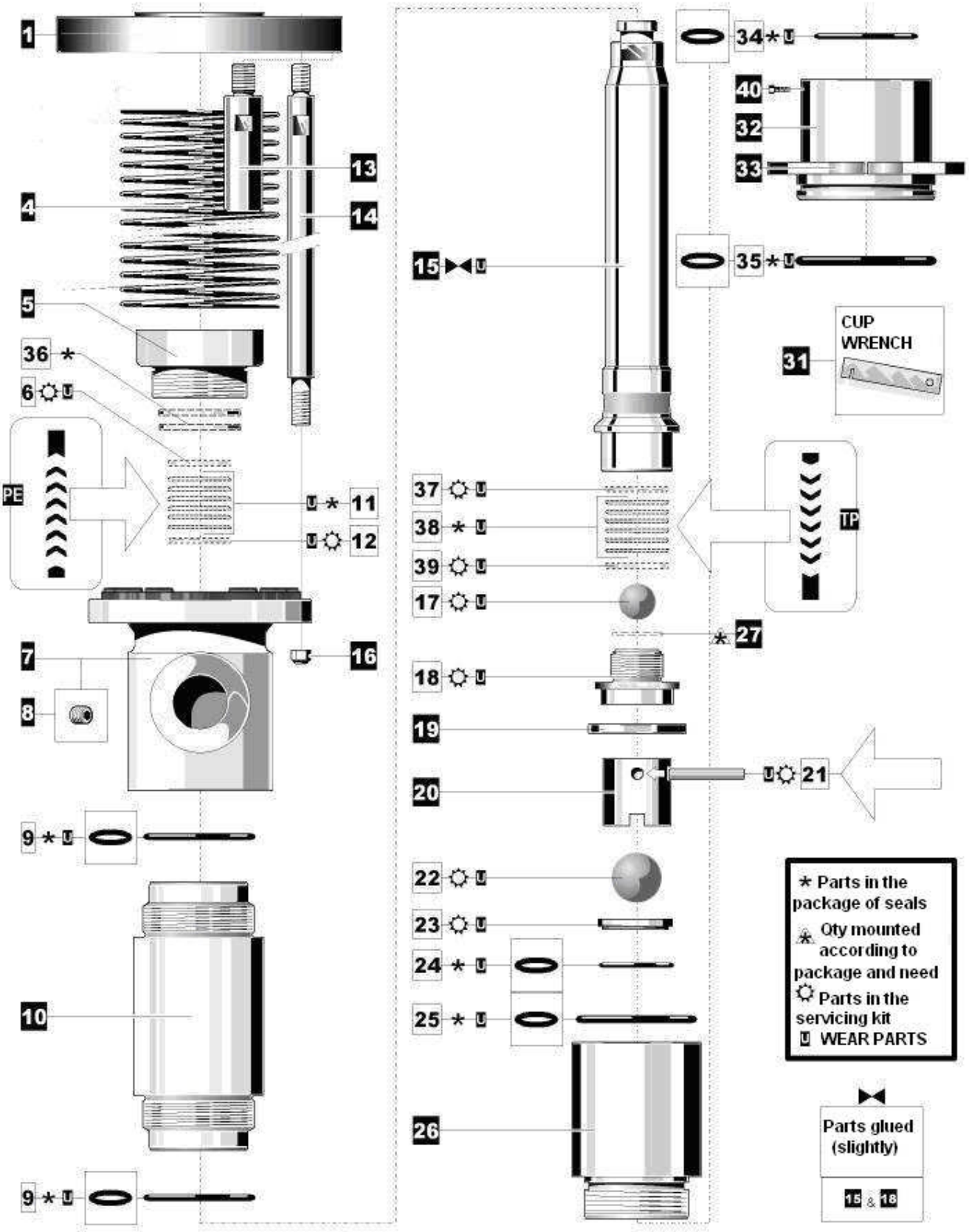
10. EXPLODED VIEWS AND SPARE PARTS' LIST

EXPLODED VIEWS

 # 105 175 01 xx / 105 175 10 xx



 # 105 175 03 xx


1
4
13
14
5
36 *
6
PE
11
12
7
16
8
9 * U
10
9 * U
15
34 * U
40
32
33
35 * U
CUP WRENCH
31
TP
37
38 * U
39
17
27
18
19
20
21
22
23
24 * U
25 * U
26
* Parts in the package of seals
Qty mounted according to package and need
Parts in the servicing kit
U WEAR PARTS
Parts glued (slightly)
15 & 18

SPARE PARTS' LIST

Ind	Description	105 175 01 xx	105 175 03 xx	105 175 10 xx	Qty
		#			
1	Connecting flange	210 620			1
4	Protection	210 622			1
5	Cup nut	210 646			1
6	'F' washer	Refer to servicing kit			1
7	Pump body	210 647			1
7A	▪ Body	NS			1
7B	▪ Cartridge	NS			1
7C	▪ Seal	Refer to package of seals			1
7D	▪ Screw, model CHc M 8x20	930 151 279			6
8	Plug	906 333 102	906 333 102	552 237	1
10	Cylinder	210 653	210 653	210 694	1
12	'M' washer	Refer to servicing kit			1
13	Pin	209 582			2
14	Tie-rod	210 621			4
*15	Piston rod	210 650	210 650	210 697	1
16	Lock nut	88 339			4
17	Ball	Refer to servicing kit			1
18	Upper piston seal	Refer to servicing kit			1
19	Washer	210 658			1
20	Spacer	210 656			1
21	Pin	Refer to servicing kit			1
22	Ball	Refer to servicing kit			1
23	Lower seat	Refer to servicing kit			1
26	Foot-valve body	210 654	210 673	210 698	1
31	Cup wrench	209 942			1
32	Follower plate adapter	-	210 966	-	1
33	Valve body flange	-	210 686	-	1
37	'F' washer	Refer to servicing kit			1
39	'M' washer	Refer to servicing kit			1
40	Screw	-	88 253	-	4
*	**Servicing kit**	**106 612 (Ind. 6, 12, 17, 18, 21, 22, 23, 37, 39)**	**106 612 (Ind. 6, 12, 17, 18, 21, 22, 23, 37, 39)**	**106 613 (Ind. 6, 12, 17, 18, 21, 22, 23, 37, 39)**	**1**
*	**Package of seals**	**Depending upon choice (Refer to chart) (Ind. 7c, 9, 11, 24, 25, 27, 34, 35, 36, 38)**			**1**

* Preceding the index number denotes a suggested spare part.

NS : Denotes parts are not serviceable.

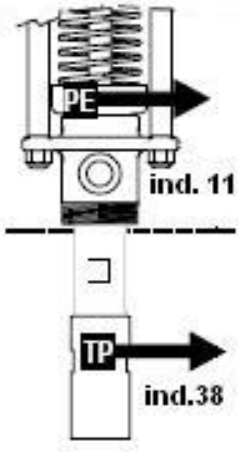
PACKAGES OF SEALS RECOMMENDED

Code	Composition	Use
01	PTFE (+ Viton)	Solvent - Ether - Ketone - Aromatic alcohol - some varnishes and paints
02	PTFE (+ Viton / FEP)	Solvent - Ether - Ketone - Aromatic alcohol - some varnishes and paints, PU paints - Pharmacy - Cosmetics - Some foodstuffs
03	PTFE + PE (+ Viton)	Epoxy glue - Butyl - PVC compound - Silicone - Some varnishes - Paint
04	PE + LEATHER (+ Viton)	Paint - Varnishes - Grease - Oil - Ink - Hydro soluble paint
05	GRAPHITED PTFE (+ Viton)	Paints - Varnishes - Inks - PVC compounds - Butyl
06	PU + PTFE G (+ Viton)	Mastics - PVC - Butyl

PACKAGES OF SEALS COMPOSITION

# FLUID SECTION		105 175 xx 01			105 175 xx 02			105 175 xx 03		
# PACKAGES		01 106 301			02 106 302			03 106 303		
Ind.	Description	Qty	#	Material	Qty	#	Material	Qty	#	Material
*9	O-Ring	2	84 445	VITON / FPM	2	84 472	VITON / FEP	2	84 445	VITON / FPM
*11	Cup packing	9	210 661	PTFE	9	210 661	PTFE	4 5	210 661 210 662	PTFE PE
*38	Piston packing	6	210 667	PTFE	6	210 667	PTFE	3 3	210 667 210 668	PTFE PE
*24	O-Ring	1	84 447	PTFE	1	84 447	PTFE	1	84 447	PTFE
*25	O-Ring	1	84 469	VITON / FPM	1	84 469	VITON / FPM	1	84 469	VITON / FPM
*27	Adjustment block	-			-			-		
*34	O-Ring	1	84 470	VITON / FPM	1	84 470	VITON / FPM	1	84 470	VITON / FPM
*35	O-Ring	1	84 457	VITON / FPM	1	84 457	VITON / FPM	1	84 457	VITON / FPM
36	Ring	-			-			-		
*7C	Seal, cartridge	1	909 420 265	FPM	1	909 420 265	FPM	1	909 420 265	FPM

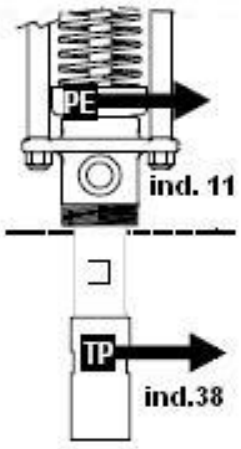
⇓ ⇓ ⇓



PTFE	→	∧	PTFE	→	∧	PE	→	∧
PTFE	→	∧	PTFE	→	∧	PTFE	→	∧
PTFE	→	∧	PTFE	→	∧	PE	→	∧
PTFE	→	∧	PTFE	→	∧	PTFE	→	∧
PTFE	→	∧	PTFE	→	∧	PE	→	∧
PTFE	→	∧	PTFE	→	∧	PTFE	→	∧
PTFE	→	∧	PTFE	→	∧	PE	→	∧
PTFE	→	∧	PTFE	→	∧	PTFE	→	∧
PTFE	→	∧	PTFE	→	∧	PE	→	∧
PTFE	→	∨	PTFE	→	∨	PE	→	∨
PTFE	→	∨	PTFE	→	∨	PTFE	→	∨
PTFE	→	∨	PTFE	→	∨	PE	→	∨
PTFE	→	∨	PTFE	→	∨	PTFE	→	∨
PTFE	→	∨	PTFE	→	∨	PE	→	∨
PTFE	→	∨	PTFE	→	∨	PTFE	→	∨

# FLUID SECTION		105 175 xx 04			105 175 xx 05			105 175 xx 06		
# PACKAGES		04 106 304			05 106 305			06 106 306		
Ind.	Description	Qty	#	Material	Qty	#	Material	Qty	#	Material
*9	O-Ring	2	84 445	VITON / FPM	2	84 445	VITON / FPM	2	84 445	VITON / FPM
*11	Cup packing	4 3	210 662 210 664	PE LEATHER	9	210 663	PTFE G	4 1	84 478 210 662	PU PE
*38	Piston packing	3 2	210 668 210 670	PE LEATHER	6	210 669	PTFE G	6	210 669	PTFE G
*24	O-Ring	1	84 447	PTFE	1	84 447	PTFE	1	84 447	PTFE
*25	O-Ring	1	84 469	VITON / FPM	1	84 469	VITON / FPM	1	84 469	VITON / FPM
*27	Adjustment block	4	210 671	ST STEEL	-			-		
		↓ Qty mounted according to need								
*34	O-Ring	1	84 470	VITON / FPM	1	84 470	VITON / FPM	1	84 470	VITON / FPM
*35	O-Ring	1	84 457	VITON / FPM	1	84 457	VITON / FPM	1	84 457	VITON / FPM
36	Ring	-			-			1	210 699	ST STEEL
*7C	Seal, cartridge	1	909 420 265	FPM	1	909 420 265	FPM	1	909 420 265	FPM

⇓ ⇓ ⇓



PE	→	∧	PTFE G	→	∧	ST STEEL	→	■
LEATHER	→	∧	PTFE G	→	∧	PU	→	∧
PE	→	∧	PTFE G	→	∧	PU	→	∧
LEATHER	→	∧	PTFE G	→	∧	PU	→	∧
PE	→	∧	PTFE G	→	∧	PU	→	∧
LEATHER	→	∧	PTFE G	→	∧	PE	→	∧
PE	→	∧	PTFE G	→	∧			
			PTFE G	→	∧			
PE	→	∨	PTFE G	→	∨	PTFE G	→	∨
LEATHER	→	∨	PTFE G	→	∨	PTFE G	→	∨
PE	→	∨	PTFE G	→	∨	PTFE G	→	∨
LEATHER	→	∨	PTFE G	→	∨	PTFE G	→	∨
PE	→	∨	PTFE G	→	∨	PTFE G	→	∨
Adjustment block	→	–	PTFE G	→	∨	PTFE G	→	∨

PTFE G = Graphited PTFE