RAINBOW

NOVA SOCIMEC
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SEMI AUTOMATIC FILLING MACHINE

MODEL MACHINE : **NS 554 SEMI AUTOMATIC FILLING MACHINE**

SERIAL NUMBER : N°2553

DATE : 10/04-2000

GUARANTEE :

Our equipment is guaranteed for 12 months against all manufacturing faults. This guarantee is limited to the replacement of parts recognised as defective by our technical department. All defective parts must be returned to us to benefit from the guarantee.

The customer will be responsible for the costs of carriage and for the labour expenses.

The guarantee for accessories which are not manufactured by us is limited to that of the concerned manufacturer.

THE FOLLOWING ARE EXCLUDED FROM THE GUARANTEE :

- Normal wear
- Damage due to poor maintenance or incorrect use

The guarantee will not apply if :

- The air supply contains water, oil vapour, impurities... which are harmful to pneumatic equipment.
- The machine is used for an other application that the one for which it has been sold

IN DOUBT, PLEASE CONSULT NOVA SOCIMEC TECHNICAL DEPARTMENT

P. NOVA-SOCIMEC
Le Président Directeur Général
Robert

OPERATION MAINTENANCE AND FAULT RESEARCH INSTRUCTION BOOK
NOVA NS

MODEL NS 554

This handbook will help you in operating efficiently your volumetric filler. Please get in touch with NOVA SOCIMEC if you need further assistance.

The NOVA filler should only be used for the purposes which have been originally indicated to NOVA SOCIMEC as being those normally fulfilled and in agreement with the instructions of our sales technical department and with the technical documentation cards, catalogues and operation mode.

The operator should wear protective eyeglasses. The equipment has safety devices which are to protect the users when filling non dangerous liquids, unless the machine has explicitly been supplied in view of filling given liquids bearing risks and indicated originally to NOVA SOCIMEC.

Do not operate the equipment without the safety devices. Should there be any malfunctioning or container movement, depress the emergency push bottom. Only qualified staff should be authorised to reset the containers or to restart the equipment after the movement has stopped and not before.

Do not set the machine without the safety devices, nor trespass the access limits that they all for, unless the necessary protective precautions have been taken in order to make the operations as safe as if the safety devices were set in place. All staff, which is to regulate the machine when a safety device has been removed, will have received proper training ensuring that they have complete knowledge of all the possible equipment movements under such conditions.

CONTENTS

SERIES A. : OPERATION MODE

1 . GENERAL DESCRIPTION AND SAFETY

The NOVA NS range of machines is thoroughly described in the following 2 series. The NOVA NS is a volumetric filling machine operated and controlled by compressed air. Please follow with utmost care the operation mode in order to have the best possible operation of the NOVA NS filling machine.

Refer to the general schematics supplied here after. Refer to the work safety chapter at the beginning of the handbook.

2. INSTALLATION OF THE MACHINE

2.1. Set the NOVA NS horizontally, where the machine should operate : check that all wood lathes of the packing and that all-carrying belts have been removed.

2.2. Fill up the pneumatic greaser to the indicated level with the oil of the can provided for this purpose, the oil should be similar to ANTAR special continuous 3A.

2.3. Connect the 3 meter air hose between the air supply and the air entrance to the NOVA NS

2.4 . Before being shipped from the factory, the pneumatic greaser has been set in order to supply one drop every 4 to 6 cycles of the NOVA NS. Check that the dripping is kept within these limits and that the frequency is not higher.

2.5. Set the pressure regulator to the required pressure (normally five atmospheres – 5 bars)

2.6. Check that all piping supplying liquid to the NOVA NS and that all feeding funnels for liquids or suction blocks have been properly rinsed and do not enclose any foreign material.

2.7. Connect the liquid supply to the input connector located on the ball valve block. Fill up the funnel or the liquid. Supply tank, when there is one or set the suction block in the supply tank according to the case. Check that all gaskets do not leak.

2.8. A wire mesh acting as a filtration unit (the dimensions of which being 30 or 40 microns) should be set in the liquid supply (ball valve model) of the filling machine. The area should be calculated according to the NOVA NS flow.

2.9. Set the counter (if there is one) on the required number of fillings. Do not set the counter on zero, even if the machine is stopped.

2.10. Actuate several times the NOVA NS (see below) until the liquid cylinder and the ball valve block are completely primed with the liquid, this means that there should be no air bubbles in the liquid which is supplied : A large container should be set below the filling nozzle so as to facilitate this operation.

2.11. Regulate the volume and the speeds as described below.

2.12. Set the filling nozzle exactly to the horizontal, eitherwise even the best filling nozzle would drip.

2.13. Auxiliary liquid tank (if there is one).
The purpose of this tank is to increase the service life of the piston joints which are in the liquid cylinder, in maintaining the dampness on the lower or rear side of the piston, when stick or difficult products which have a tendency to evaporate or to create a film on the walls of the cylinders are used ; the auxiliary tank should be compatible with the tightness rings and also with the liquid delivered.

Should there be any doubt, please check with NOVA SOCIMEC (the liquid in the auxiliary tank should be changed from time to time on a regular basis to avoid excessive liquid contamination).

3. PEDAL OPERATION

SEMI AUTOMATIC MODE

On the semi automatic NOVA NS machines a light and short pressure on the pedal initiates a complete filling cycle including automatic supply without keeping the foot permanently on the pedal.

4. FILLING SPEED OPERATION

The filling speed is controlled on the product by the control valve located on the pump head.

The filling speed may be limited by the product data themselves. Therefore a soft emulsion may require slow filling regulation. The shape of the tank and also the importance of flow may very well set a limit on the filling speed.

To increase the filling speed : turn anticlockwise the operating handle located on the liquid control valve.

To reduce the filling speed : turn clockwise the operating handle located on the liquid control valve.

5. SUPPLY SPEED CONTROL

The supply regulator located on the air cylinder controls the aspiration.

To increase the supply speed : Un-tighten the locknut and turn the knurled button anticlockwise.

To reduce the supply speed : un-tighten the locknut and turn the knurled button clockwise.

Retighten the locknut

The supply speed will be limited in order to avoid the cavitation of the liquid. More the product is thick, more the maximum supply speed is slow.

The cavitation may be noticed if a bubble appears in the filling product : I t will spoil the filling precision.

6. VOLUME REGULATION

6.1. Switch off the volume regulation switch and actuate the pedal. The machine will stop at the end of the filling run.

Then disconnect air supply.

6.2. Un-tighten the locknut located on the volume regulation stops located inside the NS basis.

- To decrease the volume : Screw upwards
- To increase the volume : Screw downwards

For twin NS (with 2 pumps), check that the regulation bar is level and square with the piston rod.

Retighten the locknut.

6.3. Connect the air supply. Open the volume alteration switch. The machine will be supplied and will be ready to operate.

6.4. Check if the required volume is met by using a graduated cylinder. Another regulation may be required. Repeat steps 6.1., 6.2 and 6.3. above.

6.5. To find, with little delay, the same regulation position note the height of the top of the volume bar in reference to the basis ; Eitherwise one can prepare a calibre which should be set between the bar and the basis.

7. FILLING NOZZLE REGULATION

7.1. Disconnect the NOVA NS air supply

7.2. Set the height of the table so that once it is uplifted, the end of the nozzle should approximately 10 mm above the top of the container.

7.3. Set the course of the nozzle by lifting or lowering the end of the run bumper, so that when the end of the head of the nozzle is open, it cannot hit the bottom of the container. Tighten the nuts located on the end of travel stop.

7.4. Set the neck positionner so as to have the container neck on the same axis as the nozzle tube.

7.5. Reconnect the air supply.

7.6. Set a container below the nozzle, actuate the filler and check the lowering speed and also the speed up lifting. To set these speeds, use the nozzle speed regulators which are monitored by the knurled buttons located on the pneumatic panel. See drawing. To reduce the speed, turn the button anticlockwise. After setting retighten the locknut.

8. PROGRESSIVE UPLIFTING DURING THE FILLING

Remark : Different liquids and different containers require different setting positions.

8.1 Operations 7 are to be undertaken. Put a container on the NOVA NS preset in order to have the filling slightly under that of the overall filling volume.

8.2 Shut the slow lifting regulator (see drawing), then open it slightly. Actuate the NOVA NS. The filling nozzle then be still just below the surface of the liquid when the filling stops. If the nozzle raises too fast, close this regulator slightly ; if it raises too slowly, open slightly this regulator.

8.3 It may happen that the nozzle is below the surface when the filling stops, but that it may have been slightly above previously, during the filling cycle. Should it be so :

- The uplifting of the nozzle should be made slowes (this is done by employing the nozzle slow up lifting regulator). See drawing.

- Or the filling cycle rhythm should be increased by using the monitoring liquid tap.

Should it not be possible to make the nozzle reach the upper position when the filling stops and to maintain it below the surface during the entire duration of the cycle, increase the timing (see drawing) so that the nozzle starts up lifting later, then repeat 8.2 and 8.3 (if this is not satisfactory, slightly decrease the tuning, (see drawing) then repeat 8.2 and 8.3).

8.4 After having reach a satisfactory up speed, set NOVA NS to the right filling volume and repeat 8.2 and 8.3 as described above, if this proves necessary for the final setting.

8.5 In order to increase the filling speed, first increase slightly the filler, then increase that of the nozzle, so as to have the end of the filling nozzle just below the surface when the filling stops (see drawing). Then increase another time the rhythm of the filler and there on. The filler speed should always be increased before that of the filling nozzle to avoid the nozzle to move up words too fast, which would create foam and splashes (see drawing). One should proceed step by step so that the nozzle should not raise too slowly which would, as a result, allow the liquid to be spilled and provides loss of time (see drawing).

8.6 To reduce the filling speed, slow down the nozzle speed, then that of the filler, then also these adjustments should be done step by step.

8.7 When the filling travel is completed, the upper valve opens and shuts the filling nozzle which will then come on at a fast speed of the container. The speed of this last fast lifting is monitored by the nozzle with drawal regulator. The speed should be adjusted to its maximum valve, without causing splashes as a result of the wipines. For fluids of the liquid type, this regulator will be very nearly completely open, this regulator is also used for the nozzle down travel into the container (see drawing).

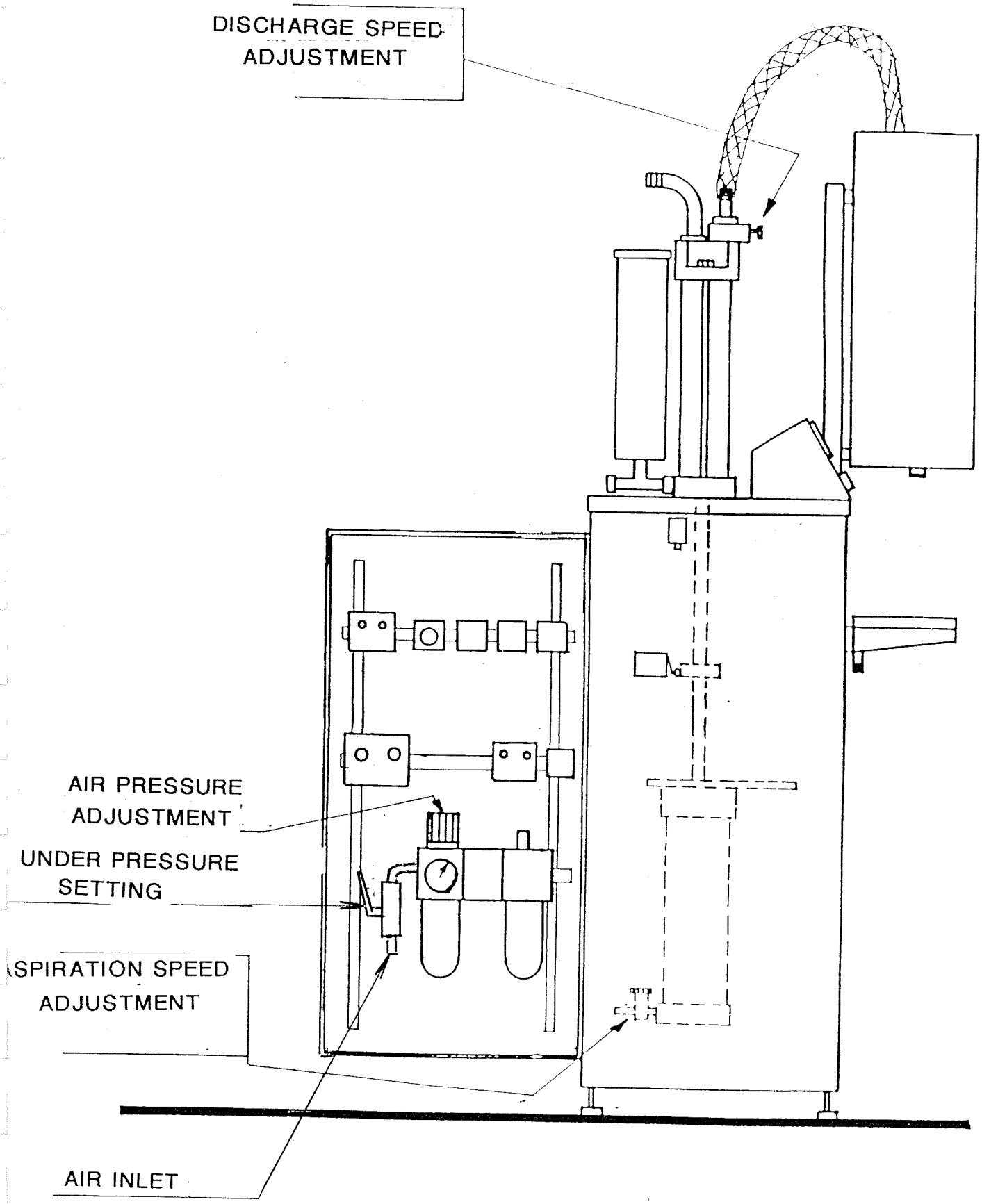
9. WARNING

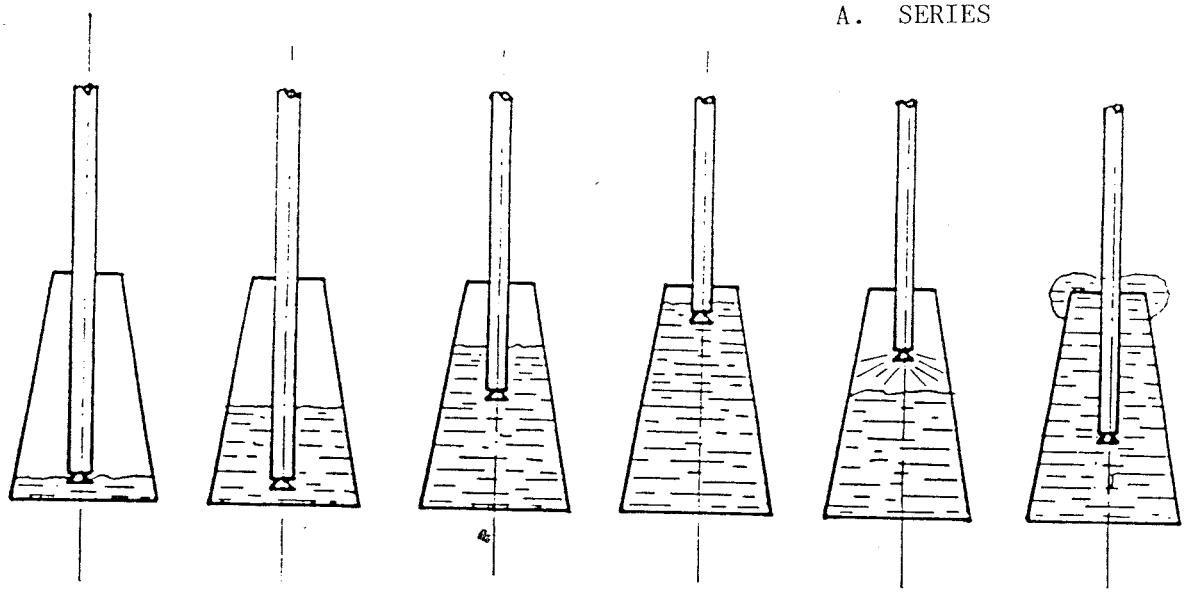
The liquid feeding the NOVA NS should be free of any solid matter and should preferably strained through a fine wire mesh netting (see drawing). If small particles enter the valve block, they may have the ball valve move out of its seating and reduce therefore the precision of the NOVA NS. Should there be solid matters, NOVA will supply the necessary parts.

10. ITEMS SUPPLIED WITH THE NOVA NS

10.1 3 meters of air hose with fast connectors.

10.2 Oil can for pneumatic lubrificator.


DISCHARGE SPEED ADJUSTMENT
AIR PRESSURE ADJUSTMENT
UNDER PRESSURE SETTING
SPIRATION SPEED ADJUSTMENT
AIR INLET



a. The filling starts

b. The filling is half way. The Nozzle starts to travel up wards

c. The filling is completed up to three quarters. The nozzle is traveling up wards correctly.

d. End of filling cycle. The nozzle which is in the right position will now withdraw rapidly.

e. The nozzle travels up too fast, or the filling speed is too slow and provides foam and splashes.

f. The nozzle travel up to slowly or has a filling speed too high therefore liquid is spille and ti me is lost.

SERIES B . : MAINTENANCE OF THE NS 554

1. CLEANING

Stop the liquid supply. Operate the machine until all the liquid located in the supply piping and in the machine has been pumped and set in an appropriate container.

Leave the filling nozzle above a large container during the time required for pumping out the liquid from the machine because air pockets trapped in the liquid could generate spattering at the level of the nozzle.

Connect an appropriate cleansing liquid to the supply connection of the machine and pump it through the NS for approximately 3 to 4 minutes.

When there are liquid supply funnels or suction blocks, one may connect the delivery aperture of the nozzle to the supply pipe and circulate the cleansing liquid.

Change the cleansing liquid, then repeat the rinsing sequence for 3 to 4 minutes.

This cleaning procedure is normally sufficient to change of liquid.

CAUTION : Never use solvents which may spoil the gaskets of the machine. In doubt, please contact NOVA.

2. CLEANING (Removal of the ball head)

In order to make this cleaning procedure an easy one, it is of ten advisable to rinse the machine before starting any disassembling.

When the machine is rinsed, actuate the dosing modification switch to stop it, the piston being in the upper position which will allow brushing it or wiping it latter.

Disconnect the air supply.

The following procedure covers the disassembly more than required in order to meet the cleaning standards. Disassemble with great cure, and especially to remove the ball valve block, gaskets, valve caps and balls, for if these parts are spoilt this may spoil the NOVA NS performances.

2.1. Untighten the screw retaining the aspiration connector, turn it around (it should always be fixed to the supply pipe) and disconnect.

2.2. Remove the ball cage, the ball and the ball valve spring. Never let the ball fall, because it has been surface treated which is essential for the operation of the machine.

2.3. Un-tighten the screw maintaining the discharge connector, make it turn and remove it along with the discharge flexible. Remove the liquid control valve, then remove the ball cage, the ball and the ball valve spring, operating cautiously as said above.
Note the assembly order of the parts.

Remark : this procedure is sufficient for all current cleaning.

3. CLEANING (total disassembly)

3.1. Operate as in 2.1. to 2.3. above

3.2. When there is an auxiliary liquid tank, drain it by using the valve or the stopper provided to this effect and located at the bottom.

3.3. Dry up the liquid or the cleansing fluid set on the piston. Remove cautiously the liquid cylinder, taking care not to spoil the piston lips.

3.4. (Removal of piston head) Remove the ball head and operate as indicated in paragraph 2 B. Series.
Lift up the cylinder in order to remove it.

See that it remains at right angles, then use the plug wrench to unscrew the piston

3.5. When each part is removed, put them in a detergent solution or in an appropriate cleansing liquid or wash it thoroughly. Check the piston, the O rings for faults, before starting reassembly. The damaged items are to be replaced and if not so the machine would not operate correctly.

4. REASSEMBLY

4.1. The reassembly should be carried according to B. Series

4.2. When there is an auxiliary liquid tank, see that the drain valve is in place and that the tank has been properly filled before re-operating the filler.

5. CHANGING THE ASPIRATION BALL SEAT

5.1. Drain all the liquid supply pipes and disconnect them at the inlet hole.

5.2. Remove the aspiration connector of the ball valve and remove the ball, the ball cage and the spring.

5.3. Remove the old ball seat with a small sharp tool. Take care not to spoil the seat place in order to avoid any damage to the new seat once it is placed.

5.4. Drive in the new seat taking care it is correctly placed.

5.5. Polish the seat by strongly maintaining the ball against the seat and by making it turn with your hand.

5.6. Re-assemble the ball valve

6 CHANGING THE DISCHARGE BALL SEAT

6.1. Drain all the liquid supply pipes and remove, if required, the filling nozzle liquid flexible.

6.2. Remove the inlet connector, the liquid control valve, the ball cage and the spring.

6.3. Remove the old ball seat as above described

6.4. Drive in the new seat by using a smooth and round rod made of wood or metal which is slightly smaller than the external diameter of the seat.

6.5. Polish the seat by making the ball turn.

6.6. Re-assemble

CAUTION : The balls supplied with the machine are in stainless steel and could be damaged if they fall on a ghard surface. Any surface defect on the ball could lead to leakage between the seat and the ball.
Replace any damaged ball by a new one.

7. SETTING DIRECTIONS FOR P.T.F.E. GASKETS

The PTFE gaskets should be set with great care.

All the surfaces on which the joints will be compressed and also the groaves should have no bar nor sharp edges.

The gasket should be dipped in boiling water for a few minutes before being employed. After setting reheat again in order to hasten the slow contraction process of a gasket which has been stretched.
Avoid too much pressure during setting, otherwise the adjustment may not be as tight after sometime.

When the PTFE gaskets are removed or are exposed during partial disaasembly of a machine, it is advisable to replace them by new gaskets.

Remark : It is often simple to put Viton or Nitrile gaskets as these may be used as spare parts if they are not spoiled by the liquids which are filled. In doubt, ask NOVA for information.

8. CURRENT MAINTENANCE

8.1. EVERY DAY

a) Check the oil level in the pneumatic lubricator. Add oil if required.

b) Open the drain valve or the water separator tank, the air pressure in on and drain the water. In humid climates this operation should be carried out more frequently.

c) Check that there is no leakage in the large hole of the central body. Should there be a liquid leakage, this means that the liquid cylinder piston is to be changed.

d) When there is an auxiliary liquid tank, and that leaks appear at the level of the small hole on the central body, this means that the packing of the liquid cylinder should be tightened or possibly changed. The packing is located on the lower part of the liquid cylinder.

8.2. EVERY WEEK

a) Disconnect the air supply, remove the water separator tank and the filtration element, then clean with paraffine. Check to see if there are no particles on the filtering unit.

b) Remove the pneumatic lubricator tank and clean it with paraffine, reassemble and fill it up with clean oil of the required specification.

c) Reconnect the air supply.

9. STORAGE OF THE MACHINE NS

If the NOVA NS is not to be used for a long time, it should be cleaned as indicated in paragraphs above. The piston should be slightly covered with transparent grease or vaseline before re-assembly to avoid its drying or that it should be sticking to the cylinder sides. When the cups are made of natural rubber, check that the lubricant is compatible with the cups.

SERIES C. : FAULT RESEARCH TABLE

TROUBLE SHOOTING

Ascertain that all normal daily and weekly maintenance have been carried out.

FAULT	DIAGNOSIS	WHAT TO DO
1. NOVA NS does not fill	1.1 The air pressure control valve is set at too low a pressure	1.1 Set the air pressure control, normally 5 atmospheres.
	1.2 On the semi automatic models the lower release valve does not work.	1.2 Set the lower release valve.
	1.3 The nozzle is blocked	1.3 Check the operation of the valve when the compressed air is shut off. Check the location of the back piston lying on the lower microvalve. Check the buttons (Emergency Stop).
	1.4 Pneumatic operated valve remains shut.	1.4 Check to see if the pneumatic control operates correctly. If not, check the pneumatic circuit by using the pneumatic circuit schematic. If it is all right dismantle the filling nozzle and clean it.
	1.5 With a syrup product or with a product drying in an aerial environment, the cylinder wall is gummed.	1.5 Dismantle and clean according to SERIES B. Order the "auxiliary liquid system" from NOVA to avoid the renewal of the problem.

SERIES C. : FAULT RESEARCH TABLE

TROUBLE SHOOTING

FAULT	DIAGNOSIS	WHAT TO DO
1. The NOVA NS does not fill (Cont.)	1.6 Rotative valve blocked.	1.6 Unblock it and check operation.
	1.7 Air pipes filled with water.	1.7 Drain the air valves, the air pipes and the air filter tank.
	1.8 Meter (if there is one) set a zero.	1.8 Reset it. **NEVER** set a meter on zero.
	1.9 Air valves frozen.	1.9 Put antifreezing oil "Kilfrost" in the lubricator or put an air dryer in the air supply pipe.
2. The NOVA NS is not supplied	2.1 The supplying regulator is closed.	2.1 Reset the supplying regulator.
	2.2 As in 2 above.	
	2.3 On the semi-automatic models, the upper valve does not operate	2.3 Reset the upper valve.
	2.4 On semi-automatic models, the normal stop switch is closed.	2.4 Open the normal stop switch.
	2.5 The liquid supply duct is closed.	2.5 Open the liquid supply duct.
	2.6 The rotative valve is blocked.	2.6 Release it and check operation.
	2.7 As in 1.9 above.	

SERIES C. : FAULT RESEARCH TABLE

TROUBLE SHOOTING

FAULT	DIAGNOSIS	WHAT TO DO
3. Splashes when filling	3.1 Wrong volume setting – container are filled too much.	3.1 Reset the NOVA NS so as to have the right volume.
	3.2 The nozzle is not appropriate for the container or for the liquid.	3.2 Check with NOVA if a new nozzle is required.
4. Air in the filled liquid (therefore insufficient filling)	4.1 The connector between the NOVA NS and supply funnel or the suction block is antightened or another supply connection for the liquid or a pump gasket create an air supply by suction.	4.1 Check that all gaskets and fillings are correctly set and check that all liquid supply ducts are properly tightened and vacuum tight.
	4.2 The packing at the top of the NOVA NS liquid cylinder is spoiled.	4.2 Dismantle the NOVA NS and replace the packing.
	4.3 The NOVA NS piston is spoiled or worn out.	4.3 Dismantle the NOVA NS and replace the piston.
	4.4 The resupply speed is too fast and there is a cavitation effect.	4.4 Slowdown the resupply of the NOVA NS.
	4.5 Solid materiel is stuck behind the seating of the output ball.	4.5 Dismantle the output valve and clean.

SERIES C. : FAULT RESEARCH TABLE

TROUBLE SHOOTING

FAULT	DIAGNOSIS	WHAT TO DO
5. The filling nozzle drips	5.1 The output ball is not correctly set on its seating	5.1 Check the output ball seating and ensure that it is cleaned and undamaged.
	5.2 The input ball is not correctly set on its seating.	5.2 Reset the ball on its seating or replace it if required.
	5.3 The height of the product in the supply tank is too high for the ball valves.	5.3 Install an intermediary supply funnel for the liquid between the supply tank and the NOVA NS in order to bring the height down to 1.5 meters or order stronger springs.
	5.4 The supply pipe connectors to the following nozzle are unscrewed.	5.4 Retighten or replace the supply pipe connector to the filling nozzle.
	5.5 The supply pipes for the liquid are unscrewed.	5.5 Retighten the input connectors and all gaskets of the liquid supply pipes.
	5.6 The valves of the ball valve block are not set correctly.	5.6 Reassemble correctly the ball valve block – See schematic design supplied.
	5.7 The filling nozzle is out of level.	5.7 Set the level of the nozzle.
	5.8 The piston is worn out or incorrectly set.	5.8 See 4.3 above.
	5.9 The filling nozzle is not the right one for the liquid.	5.9 Ask NOVA for a new type of nozzle.

TROUBLE SHOOTING

FAULT	DIAGNOSIS	WHAT TO DO
5. The filling nozzle drips (cont.)	5.10 There is air in the liquid : This air expands after the end of the filling travel	5.10 Check the liquid supply system to remove the air.
	5.11 The conveyor or any other equipment sets vibrations on to the machine.	5.11 Check all bearing points and add antivibration pads if required.
	5.12 The liquid has a tendancy to provide drips.	5.12 Order form NOVA a dripping pan.
6. The NOVA NS does not fill in exact quantities	6.1 There is liquid cavitation result from an excessive supply speed.	6.1 Reduce the supply speed.
	6.2 Input ball is not set correctly on it's seating.	6.2 Inspect the input ball and seating, should it be dirty clean it. If required, reset the ball on it's seating.
	6.3 Output ball is not set correctly on it's seating.	6.3 Inspect the output ball and seating, should it be dirty clean it. If required, reset the ball on it's seating.
	6.4 The pedal is released or depressed before the piston rod of the NOVA NS has completed one of the other travel on the basic model.	6.4 Ascertain that the piston rod has completed it's travel before releasing or depressing the pedal.

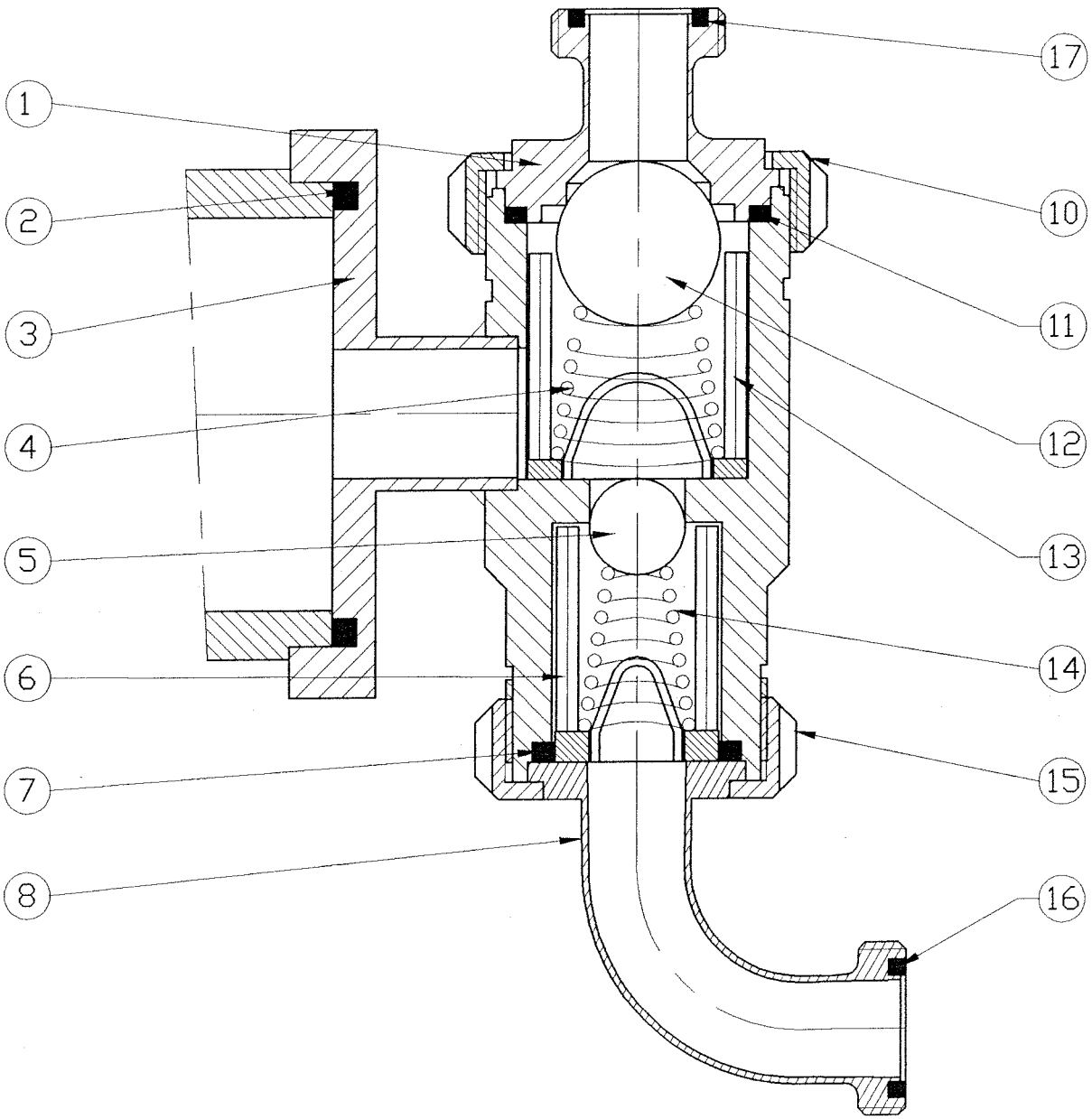
SERIES C. : FAULT RESEARCH TABLE

TROUBLE SHOOTING

FAULT	DIAGNOSIS	WHAT TO DO
7. Jerky filling	7.1 The liquid does not have enough resistance against the filling travel.	7.1 Set the control valve for the liquid until maximum speed with no jerks.
	7.2 Lack of our pressure.	7.2 Air pressure control valve to be properly set (4-5 atm.).
	7.3 The liquid sticks to the cylinder walls.	7.3 Fix an auxiliary liquid tank to be purchased from NOVA.
	7.4 Lack of air (pressure gauge varies)	7.4 Stop all other equipment in reducing the air supply to the NOVA NS.
8. Jerky resupplying	8.1 Lack of air pressure.	8.1 Set the air pressure control valve.
	8.2 Resupply regulator is closed too much.	8.2 Open the resupply regulator.
	8.3 Input pipe blocked.	8.3 Control the whole input pipe assembly and clean if required.
	8.4 Resupplying travel too fast.	8.4 Set the resupplying regulator.
	8.5 Lack of air (pressure gauge varies).	8.5 Stop the equipment in reducing the air supply to the NOVA NS.
9. Severe wear of the piston	9.1 Abrasive product or which cristallizes on the cylinder walls	9.1 An auxiliary liquid system should be installed and purchased from NOVA (as an option). Liquid follower tank.

TROUBLE SHOOTING

FAULT	DIAGNOSIS	WHAT TO DO
10. AUTOMATIC MODELS The NOVA NS does not do the filling	10.1 The volume change switch is on the "Change Position".	10.1 Set the switch on the "ON" position.
	10.2 Emergency stop switch is on the "STOP" position.	10.2 Set the switch on the 'ON" position.
	10.3 The container location valve(s) is (are) out of adjustment	10.3 Reset the valve(s).
10. AUTOMATIC MODELS (Cont.)	10.4 The lower limit pilot valve(s) is (are) out of adjustment.	10.4 Reset the valve(s) (with a.5 mm clearance when the position is the completely closed on).
	10.5 The forward limit pilot air valve located on the push cylinder is out of adjustment (transverse handling of boxes only).	10.5 Reset the valve. (See 10.4 above).
	10.6 The pneumatically operated filling nozzle remains closed.	10.6 Check the O.rings located in the filling nozzle(s) to see if they are not jammed. Check the pneumatic circuit (squashed pipe, defective valve, etc.).
11. ROTATIVE VALVES MODEL The NOVA NS stops	11.1 The rotative valve is jammed and there is no contact with the end of travel switch.	11.1 Dismantle, check and make good.
	11.2 The rotative valve end of travel switch or switches is (or are) out of adjustment.	11.2 Readjust for proper travel limit operation (see 10.4 above)
	11.3 The end of travel switch for the rotative valve is defective.	11.3 Check and replace if required.
	11.4 The air does not reach the control mechanism.	11.4 Check the pneumatic circuit.

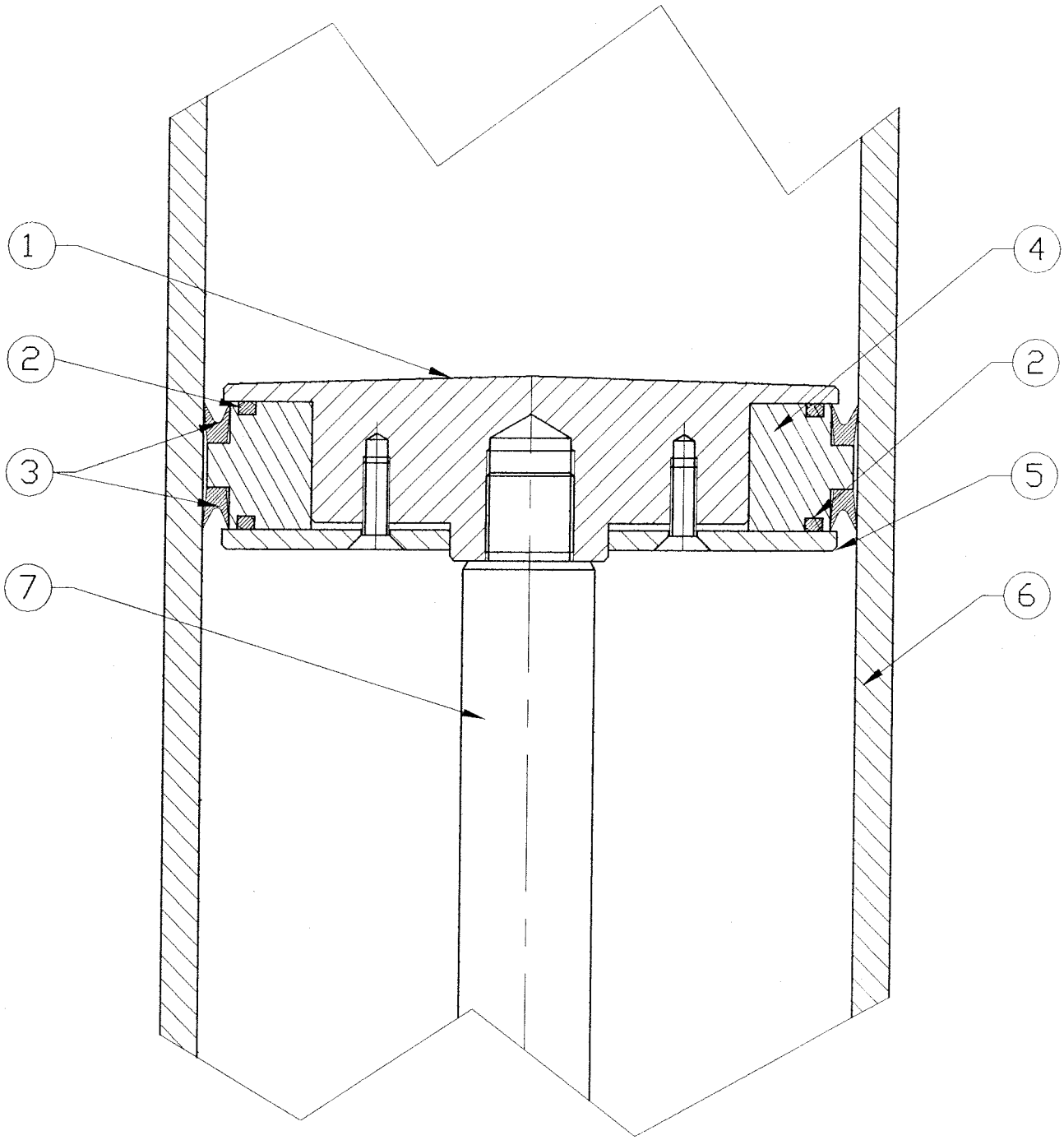


ASSEMBLY NS 554 AL	NOVA-SOCIMEC 4,RUE JULES FERRY BP9 28190 COURVILLE/EURE TEL: 02 37 23 21 15	
SUB-ASSEMBLY BALL VALVE	N° 148-03	FOLIO 1-1

NOMENCLATURE

NS 554 AL	BALL VALVE	NUMBER 148 03

REP	DESIGNATION	QTY	REF. NOVA	REF. MANUF	BRAND
	Priming end	1	148 03 02A		
2	Cylinder torique joint	1	BS 258 V		A + P
3	Complete upper bottom	1	148 03 01^{E}		
	Priming spring	1	212 00 67B		
	Discharging ball	1	134 03 008A		
6	Discharging ball cage	1	134 03 09B		
	Connection joint dia. 38 SMS	1	219 04 17		SODIME
	Discharging flange	1	415 02 15A		
10	Screw dia. 51 SMS	1	207 00 38		SODIME
11	Connection joint dia. 51 SMS	1	219 04 18		SODIME
12	Priming ball	1	134 03 06B		
13	Priming ball cage	1	134 03 07C		
14	Discharging spring	1	212 00 68B		LACHANT
15	Screw dia. 38 SMS	1	207 00 47		SODIME
16	Dairy joint dia. 25 SMS	2	219 04 32		SODIME
17	Dairy joint dia. 38 SMS		219 04 33		SODIME

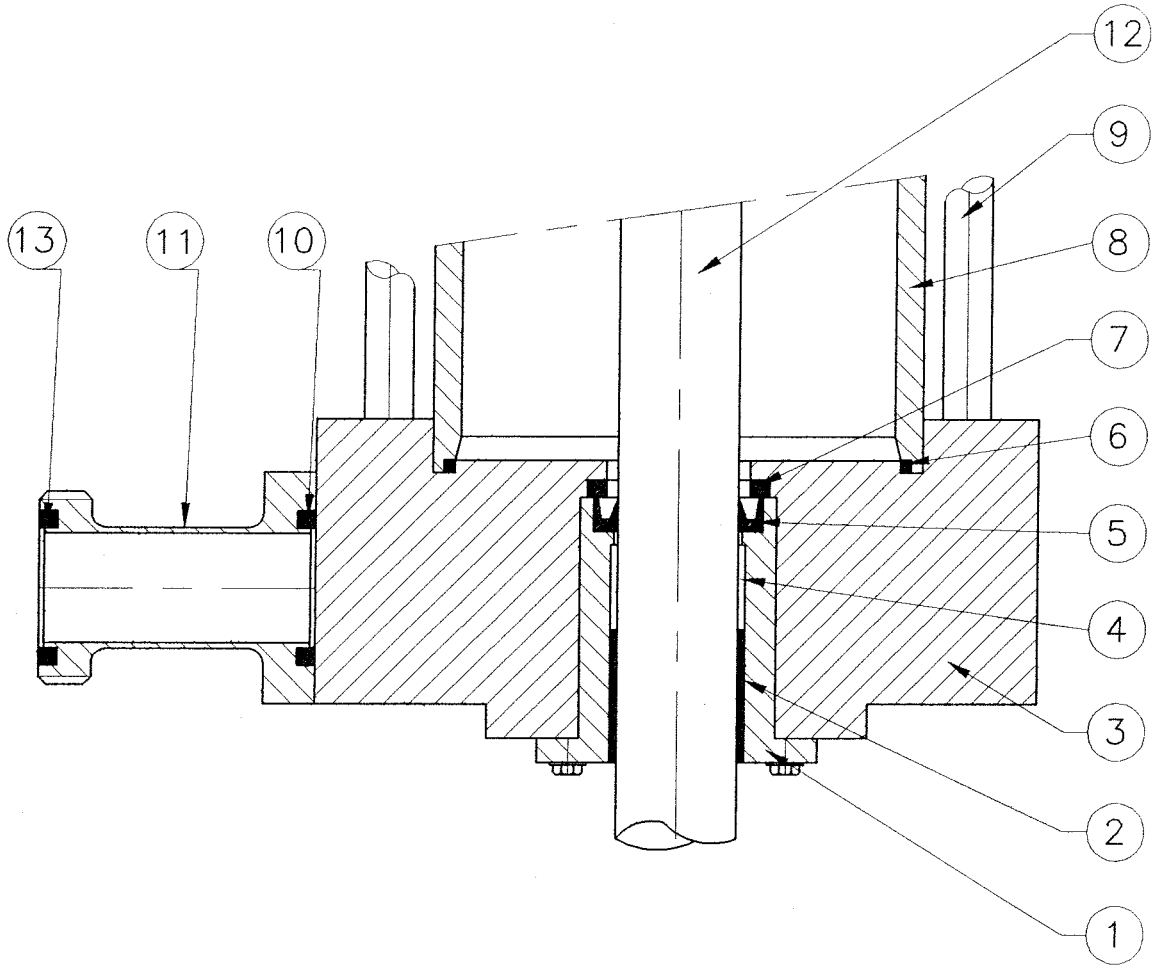


ASSEMBLY NS 554 AL	NOVA-SOCIMEC 4,RUE JULES FERRY BP9 28190 COURVILLE/EURE TEL: 02 37 23 21 15	
SUB-ASSEMBLY CYLINDER	N° 148-05	FOLIO 1 - 1

NOMENCLATURE

NS 554 AL | CYLINDER | NUMBER 148 05

REP	DESIGNATION	QTY	REF. NOVA	REF. MANUF	BRAND
	Upper part piston	1	148 05 011		
2	Piston joint	2	BS 250 V	BS 250 Viton	A + P
3	Lips joint	2	401 01 138	S59048-1500-80-SD	BUSAK
	Middle part piston	1	148 05 012		
	Lower part piston	1	148 05 013		
6	Cylinder	1	148 04 01B		
	Pump rod	1	349 04 05A		

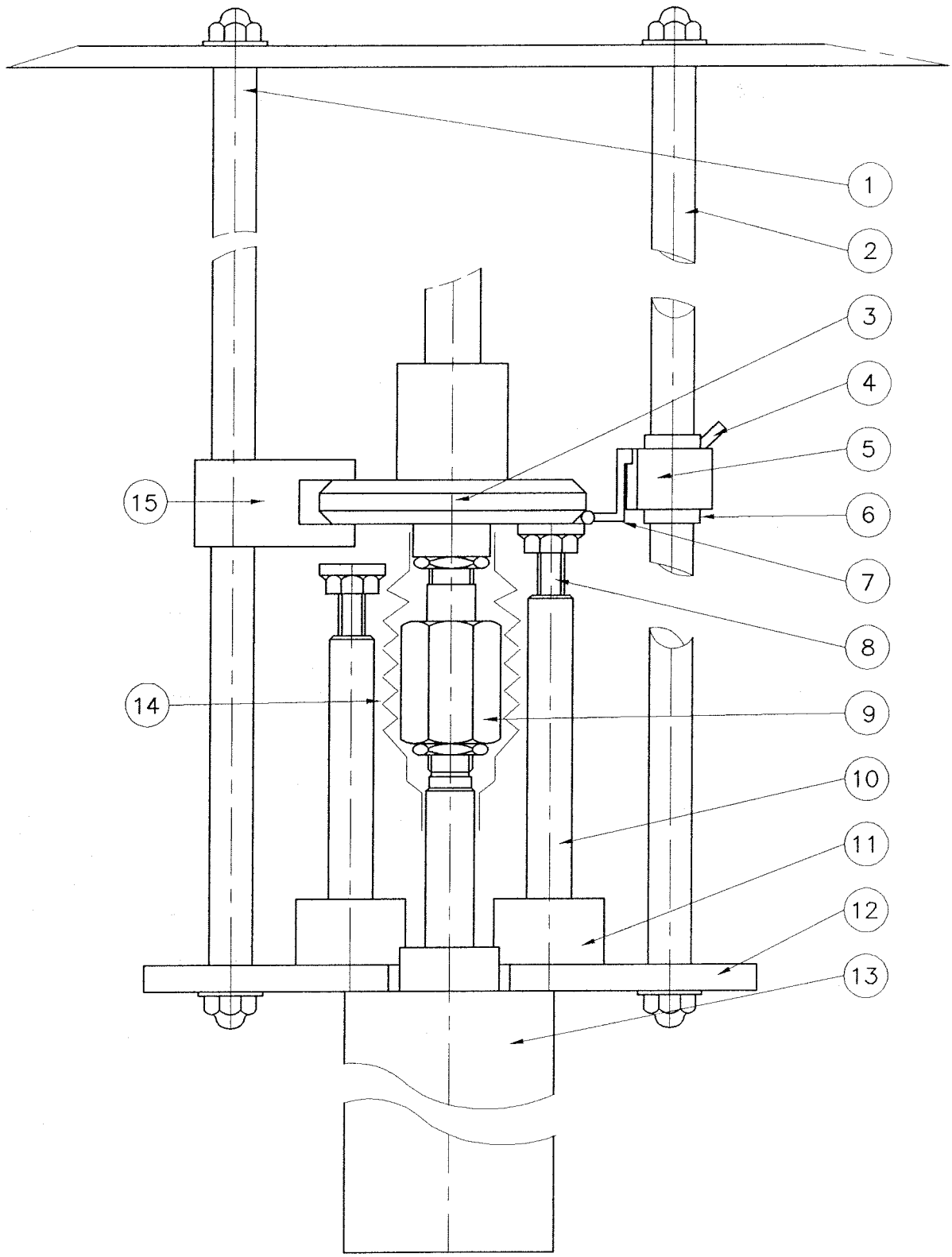


ASSEMBLY NS 554 AL	NOVA-SOCIMEC 4,RUE JULES FERRY BP9 28190 COURVILLE/EURE TEL: 02 37 23 21 15	
SUB-ASSEMBLY BOTTOM CYLINDER	N° 416-20-100	FOLIO 1-1

NOMENCLATURE

NS 554 AL	LOWER BOTTOM	NUMBER 420 16

REP	DESIGNATION	QTY	REF. NOVA	REF. MANUF	BRAND
	Guiding ring	1	349 04 07A		
2	Bearing	1	213 03 15	MB 30-25 DU	SIC
3	Lower bottom	1	420 016 03C		
	Bearing	1	213 03 16	MB 30-30 DV	SIC
5	Lips joint	1	219 05 19		Chromex
6	Cylinder lower joint	1	BS 258 V	BS 258 Viton	A + P
	Ring joint	1	BS 223 V	BS 223 Viton	A + P
	Cylinder	1	148 04 01B		
9	Stud bolt	4	420 16 01		
10	Washing flange joint	1	BS 214 V	BS 214 Viton	A + P
11	Washing flange	1	420 16 07B		
12	Pump rod	1	349 04 05A		
13	Connection joint dia. 25 SMS	1	219 04 32		

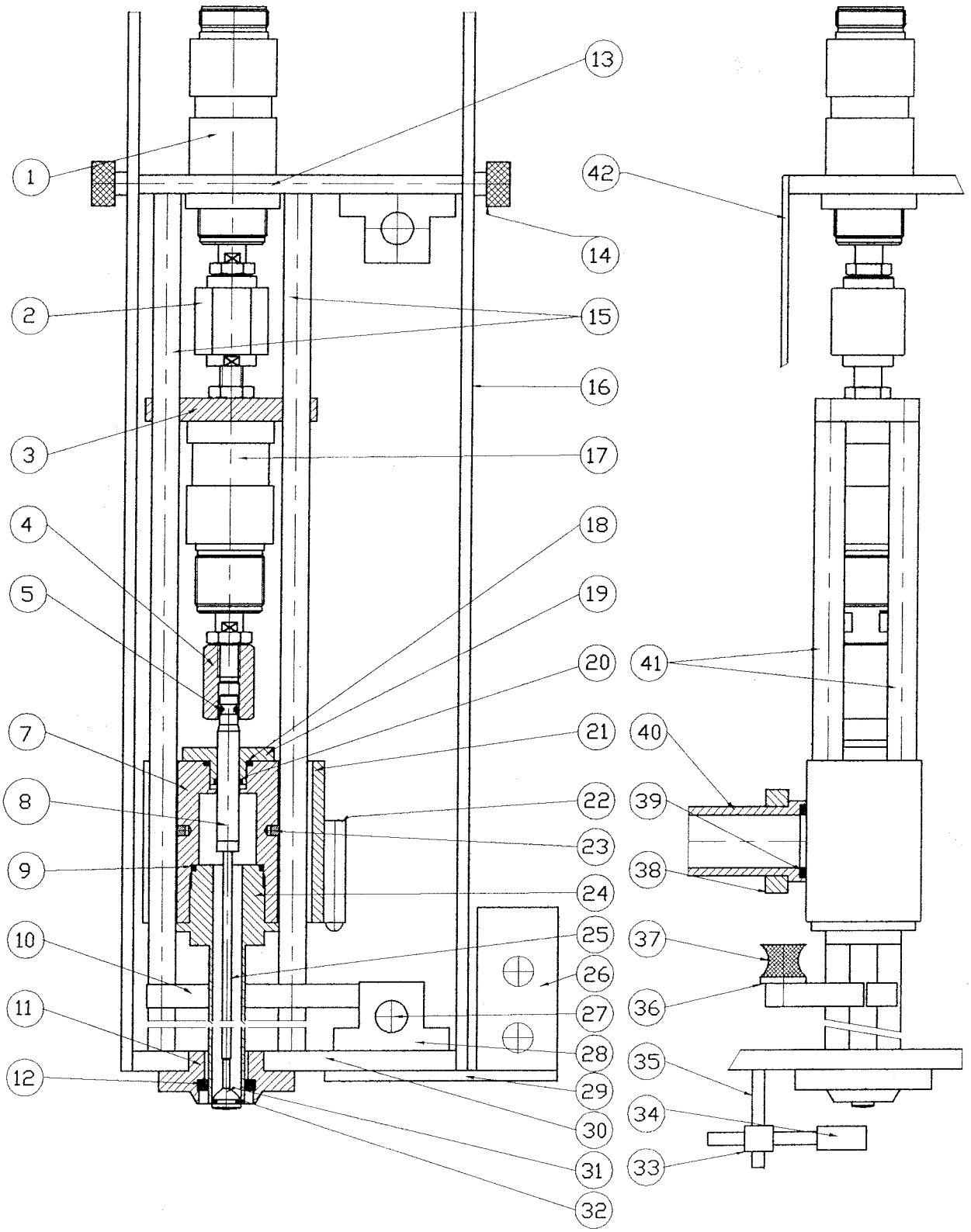


ASSEMBLY NS 554 AL	NOVA-SOCIMEC 4,RUE JULES FERRY BP9 28190 COURVILLE/EURE TEL: 02 37 23 21 15	
SUB-ASSEMBLY MECHANISM	N° 415-07	FOLIO 1-1

NOMENCLATURE

NS 554 AL	MECHANISM	NUMBER 415 07

REP	DESIGNATION	QTY	REF. NOVA	REF. MANUF	BRAND
	Column	3	420 16 105		
	Microvalve support column	1	420 16 106		
3	Limit stop washer	1	349 04 06B		
	Squeezing device handle	1	214 01 79	MRX 63-S-M8	
	Pneumatic contact	3	205 08 04	PXC M601 A110	TELE
6	Contact support squeezing device	2	415 07 25A		
7	Retractable head	2	205 08 07	XCM Z24	TELE
	Limit stop end	4	415 07 08		
	Free coupling	1	205 11 10	FKM20 x 1,5	FESTO
10	Metering rods	4	420 16 104		
11	Limit stop support	2	415 07 06A		
12	Air cylinder support plate	1	415 07 01B		
13	Air cylinder dia. 100 stroke 335	1	205 11 69	C10P 100-S-335-KA-X	BOSH
14	Protection bellows	1	215 00 43		
15	Limit stop guide		349 04 08		



ASSEMBLY DIVING NOZZLE Ø25.4	NOVA-SOCIMEC 4,RUE JULES FERRY BP9 28190 COURVILLE/EURE TEL: 02 37 23 21 15	
SUB-ASSEMBLY NS 554 AL	**N°** 418-03	**FOLIO** 1-1

NOMENCLATURE

NS 554 AL	DIVING NOZZLE	NUMBER 418 03 FOLIO 1/3

REP	DESIGNATION	QTY	REF. NOVA	REF. MANUF	BRAND
	Air cylinder	1	205 11 15	DSW 32-300 P	FESTO
	Coupling	1	205 11 38	FK M10	FESTO
3	Valve air cylinder support	1	418 03 52		
	Air cylinder coupling	1	418 03 55		
	Pin	2	202 00 05	DIA 2 x 50 INOX	
7	Middle block	1	418 03 58B		
	Rod end	1	418 03 06B		
	Torique joint	1	BS 024V	BS 024 Viton	A + P
10	Mobile limit stop	1	418 03 10C		
11	Scraper joint support	1	418 03 36		
12	Scraper joint	1	402 02 10		
13	Upper plate	1	418 03 50		
14	Settling button	2	214 01 30	UC192/15P M5x10	ELESA
15	Stud bolt	2	418 03 51A		
16	Diving nozzle case	1	418 03 97		
17	Air cylinder	1	205 08 77	C12PN-25AP-25-G1	BOSCH
18	Torique joint	1	BS 114 V	BS 114 Viton	A + P
19	Valve end guide	1	418 03 59ABr		
20	Rod torique joint	1	BS 012 V	BS 012 Viton	A + P

NOMENCLATURE

NS 554 AL	DIVING NOZZLE	NUMBER 418 03 FOLIO 2/3

REP	DESIGNATION	QTY	REF. NOVA	REF. MANUF	BRAND
21	Lower contact support	1	418 03 65		
2	Microvalve	1	205 08 04	PXC M601A110	TELE
23	Friciton device	16	401 01 08		
24	Diving nozzle dia. 25,4	1	418 03 87C		
25	Valve rod	1	418 03 14B		
26	Control box	1	418 23 04		
27	Support axis	2	418 03 13		
28	Support nut	2	418 03 04		
29	Box support	1	418 03 24A		
30	Lower plate	1	418 03 60		
31	Valve dia. 25,4	1	418 03 81A		
32	Torique joint	1	BS 115 V	BS 111 Viton	A + P
33	Ve adjustment nut	1	418 03 40		
34	Centering Ve	1	418 03 41		
35	Ve support column	1	418 03 66		
36	Damper brace	1	418 03 61		
37	Diving nozzle damper	1	418 03 44		
38	Tube flange	1	418 03 16A		
39	Input flange torique joint	1	BS 214 V	BS 214 Viton	A + P
40	Flange	1	418 03 64		

NOMENCLATURE

NS 554 AL	DIVING NOZZLE	NUMBER 418 03 FOLIO 3/3

REP	DESIGNATION	QTY	REF. NOVA	REF. MANUF	BRAND
41	Air cylinder support small column	4	418 03 54		
2	Back case	1	418 03 96		

ROBINET REGULATEUR

régulation vitesse de refoulement faite sur le produit

(702) 115 / 20250

(725) 554

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C Courville / Eure

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NS 115/20250/554 S.A.

bille, monodose, verticale

canne c. 300

NOMENCLATURE

NS 554 AL	PNEUMATIC	FOLIO

POS	DESIGNATION	NOVA REFERENCE	MANUF. REF
2	PUSH POSITION SWITCH	205 08 04	PXC M601 A 110
3	VALVE WITH SUPPORT A « E-C »	205 07 12	PXB B 1011
4	METALLIC PEDAL	205 15 21	PXP EM 510
11	LOGIC ELEMENT « OR »	205 06 71	PLK C 10
12	LOGIC ELEMENT « NO »	205 06 73	PLN C 10
14	LOGIC ELEMENT « AND »	205 06 72	Pll c 10
18	RETRACTABLE ROLLER HEAD	205 08 07	XCM Z 24
21	2 POSITIONS TURNING KNOB	205 07 20	ZB2 BD2
22	PRESS BUTTON	205 07 19	ZB2 BT4
25	3/2 MEMORY RELAY	205 07 25	PLM A 10
31	SPEED ADJUSTER 1/2	205 08 75	1/2 ERU 4187
32	SPEED ADJUSTER 1/8 DIA. 8	205 07 67	PWR A 1488
33	SPEED ADJUSTER 1/8	205 03 67	S 836
50	4/2 P/P DISTRIBUTOR SIZE 1/2	205 08 79	PVD E 24 22 23
51	4/2 P/P DISTRIBUTOR SIZE 1/8	205 07 75	PVD B 14 21 28
62	AIR TREATMENT SET SERIAL V15	205 12 84	PZD C 1432
72	CNOMO AIR CYLINDER DIA. 25 STROKE 25	205 08 77	C12 PN 25 AP 25
104	THREE-WAY COCK WITH PURGING 1/2	205 11 66	0469 13 21
712	AIR CYLINDER DIA. 32 STROKE 300 DOUBLE EFFECT	205 11 15	DSW 32 300 P
725	ISO AIR CYLINDER DIA. 100 STROKE 335	205 11 69	C10P-100-S-335-KA-X