



INSTALLATION, SERVICE AND MAINTENANCE INSTRUCTIONS

NLD/NTD SHUT-OFF VALVE WITH LEAK DETECTOR



10.210.32.0017

INOXPA, S.A.

c/Telers, 54 Apto. 174
E-17820 Banyoles - Girona (Spain)
Tel. : (34) 972 - 57 52 00
Fax. : (34) 972 - 57 55 02
email: inoxpa@inoxpa.com
www.inoxpa.com



Original Manual

10.210.30.04ES
ED. 2012/05



Declaration of Incorporation

The manufacturer: **INOXPA, S.A.**
c/ Telers, 57
17820 Banyoles (Girona), Spain

herewith declares that the machine:

NLD / NTD Shut-off with leak detector

with the serial number: _____

conforms to the relevant provisions of the following directives:

Machinery Directive 2006/42/EC (RD 1644/2008)
Pressure equipment Directive (97/23/EC)

It also declares that the technical documentation for this partly completed machinery has been developed in compliance with Appendix VII Section B and it agrees to issue this documentation as and when required by the national authorities.

In compliance with Regulation (EC) 1935/2004 on materials and articles intended to come into contact with food.

In compliance with Regulation (EC) 2023/2006 on good manufacturing practice for materials and articles intended to come into contact with food.

The aforementioned partly completed machinery shall NOT be put into service until the final machinery into which it is to be incorporated has been declared in conformity with the Machinery Directive, as required by Appendix II A.

Identification of the person empowered to draw up the Declaration on behalf of the manufacturer, and qualified to compile the technical file established by the Community:

Banyoles, 8 January 2014

David Reyer Brunet
Technical Office Manager

1. Safety

1.1. INSTRUCTION MANUAL

This instruction manual contains basic indications which should be fulfilled during the installation, start-up, and maintenance of this product.

The information published in the instruction manual is based on updated data.

INOXPA reserves the right to modify this instruction manual without prior notice.

1.2. INSTRUCTIONS FOR START-UP

This instruction manual contains essential and useful information for the correct handling and maintenance of the valve.

The safety instructions detailed in this chapter as well as all the special measures and recommendations included in the other chapters of this manual must be observed and fulfilled. These instructions should be kept in a safe location near the installation area.

1.3. SAFETY

1.3.1. Warning symbols



Safety hazard for people in general



Danger of injury caused by moving equipment parts



Electric hazard



Danger! Caustic or corrosive agents.



Danger! Suspended loads



Danger for the correct operation of the equipment



Mandatory to ensure safety at the workplace



Mandatory use of safety goggles

1.4. GENERAL SAFETY INSTRUCTIONS



Read the instruction manual carefully before installing and starting up the valve. Contact INOXPA in case of doubt.

1.4.1. During installation



The *Technical Specifications* in Chapter 8 should always be observed.

The installation and use of the valve must always be carried out in accordance with applicable health and safety regulations.

Before starting up the valve, verify that it is correctly assembled and that the shaft is perfectly aligned. An incorrect alignment and/or excessive force in securing the valve may cause serious mechanical problems in the valve.

1.4.2. During operation



The *Technical Specifications* in Chapter 8 should always be observed. Under no circumstances can the specified limit values be exceeded.



NEVER touch the valve and/or the lines that are in contact with the liquid during operation. There is a risk of burns when working with hot products.



The valve contains parts with linear movement. Never put the hands or fingers on the closing area of the valve. This can cause serious injuries.

1.4.3. During maintenance



The ***Technical Specifications*** in Chapter 8 should always be observed.

NEVER disassemble the valve until the lines have been emptied. Bear in mind that the liquid in the line may be dangerous or extremely hot. Consult the regulations in effect in each country for these cases.

Do not leave loose parts on the floor.



All the electrical work should be carried out by authorised personnel.

1.4.4. Compliance with the instructions

Not following the instructions may impose a risk for the operators, the environment and the machine, and may result in the loss of the right to claim damages.

This non-compliance may result in the following risks:

- Failure of important machine/plant functions.
- Failure of specific maintenance and repair procedures.
- Possible electrical, mechanical and chemical hazards.
- Risk to the environment due to the type of substances released.

1.5. WARRANTY

Any warranty will be void immediately and lawfully, and, in addition, we will request compensation for any claims of civil liability presented by third parties, in the following cases:

- The installation and maintenance work has not been carried out according to the instructions in this manual.
- The repairs are not carried out by our personnel or have been carried out without our written authorisation.
- The parts used are not INOXPA genuine parts.
- Modifications have been carried out on our material or equipment without written authorisation.
- The material or equipment has been improperly used, has been used negligently, or has not been used according to the instructions and their intended use as specified in this manual.

The general conditions of delivery that are already in your possession are also applicable.

Please do not hesitate to contact us in case of doubts or if further explanations are required regarding specific data (adjustments, assembly, disassembly, etc.).

2. Table of contents

| | |
|---|----|
| 1. Safety | |
| 1.1. Instruction manual..... | 3 |
| 1.2. Instructions for start up..... | 3 |
| 1.3. Safety..... | 3 |
| 1.4. General safety instructions..... | 3 |
| 1.5. Warranty..... | 4 |
| 2. Table of contents | |
| 3. Delivery and Installation | |
| 3.1. Checking The Shipment..... | 6 |
| 3.2. Acceptance and unpacking..... | 6 |
| 3.3. Identification..... | 7 |
| 3.4. Placement..... | 7 |
| 3.5. Flow direction..... | 8 |
| 3.6. Installation..... | 8 |
| 3.7. Inspections and checks..... | 8 |
| 3.8. Welding..... | 9 |
| 3.9. Air connection..... | 10 |
| 4. Start-up | |
| 4.1. Applications of the shut-off valve with leak detector..... | 11 |
| 4.2. Start-up..... | 11 |
| 4.3. Operation..... | 11 |
| 5. Operating problems: causes and solutions | |
| 6. Maintenance | |
| 6.1. General considerations..... | 13 |
| 6.2. Maintenance..... | 13 |
| 6.3. Cleaning..... | 14 |
| 7. Assembly and disassembly | |
| 7.1. Disassembly / assembly of the shut-off valve..... | 16 |
| 7.2. Disassembly / assembly of the actuator..... | 17 |
| 7.3. Disassembly / assembly of the leak detector..... | 18 |
| 8. Technical specifications | |
| 8.1. Dimensions of the shut-off valve with leak detector..... | 20 |
| 8.2. Exploded view and parts list..... | 21 |


3. Delivery and Installation

3.1. CHECKING THE SHIPMENT

The first thing to do on receiving the valve is to verify that it matches the delivery note.

INOXPA will inspect all the equipment before packing, although it cannot guarantee that the merchandise will arrive intact to the user. For this reason, the valve received and any other article should be checked and, if it is found not to be in good condition and/or not all parts are included, the carrier should submit a report as soon as possible.

Each valve has a manufacturing number engraved. Indicate the manufacturing number in all documents and correspondence.

| | |
|---|------------------|
|  | |
| VALVULAS NEUMATICAS / AIR OPERATED VALVES | |
| NºFIGURA: FIGURE No.: | TAMAÑO: SIZE: |
| TIPO ACTUADOR: ACTUATOR TYPE: | |

serial number →

3.2. ACCEPTANCE AND UNPACKING



INOXPA will not be responsible for the inappropriate unpacking of the valve and its components.

3.2.1. Acceptance:

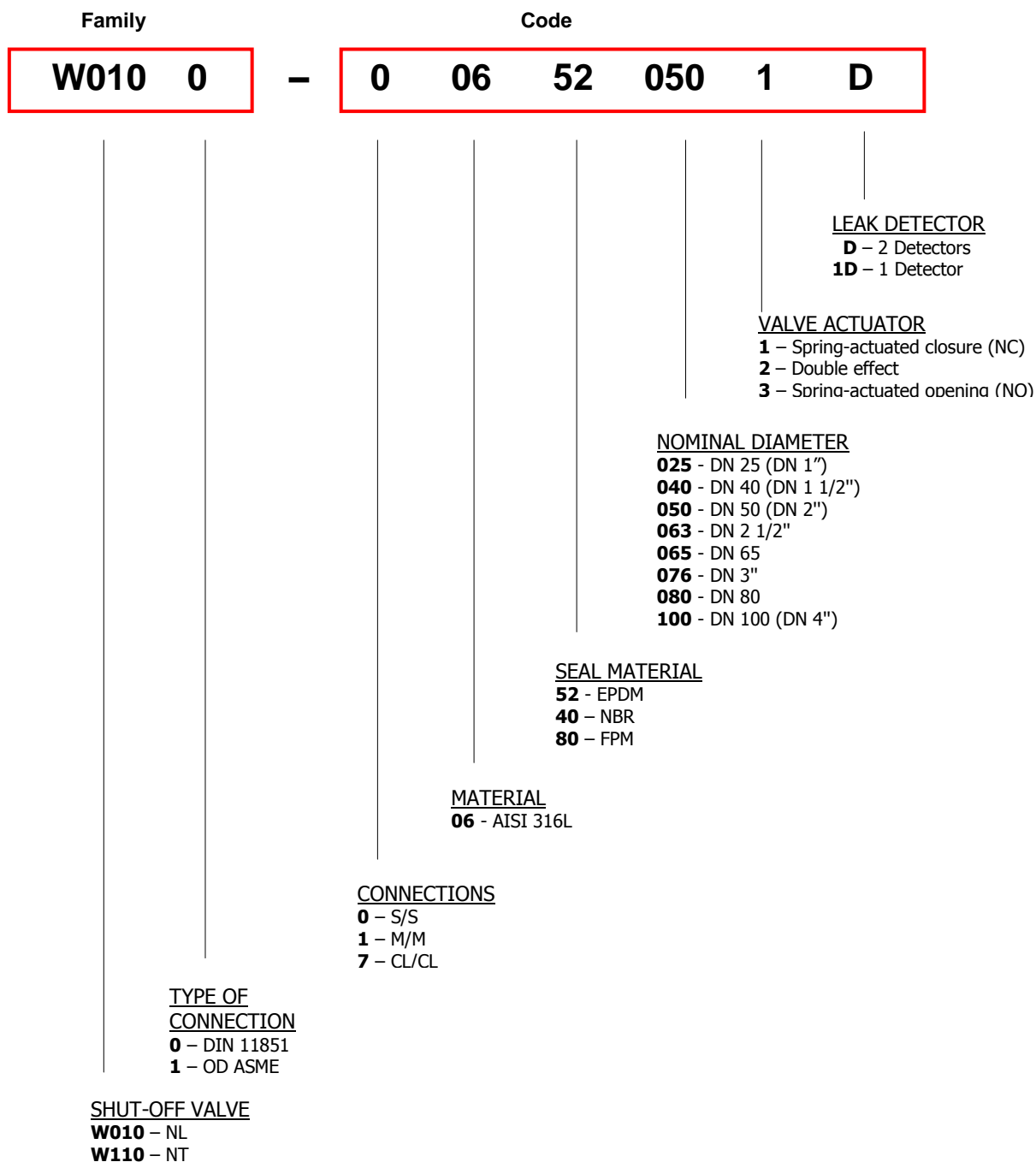
Check that all the parts indicated in the delivery slip are present.

- Complete valve
- Its components (if supplied)
- Delivery note
- Instruction manual

3.2.2. Unpacking:

- Remove all traces of packing materials from the valve or its parts
- Inspect the valve or its constituent parts for possible damage caused during transport.
- Avoid any possible damage to the valve and its components

3.3. IDENTIFICATION



The buyer or user will be responsible for the assembly, installation, starting and operation of the valve.

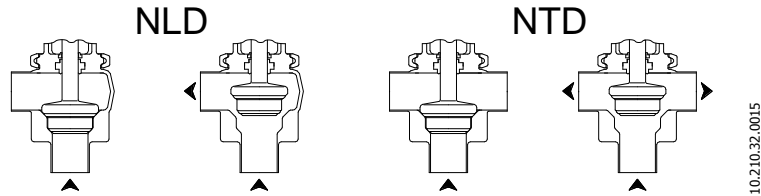
3.4. PLACEMENT

Place the valve in such a way as to facilitate inspections and checks. Leave sufficient space around the valve for appropriate inspection, separation and maintenance (See Section 3.8.1)

3.5. FLOW DIRECTION

The recommended flow direction for the product passing through each of the valve types is indicated below. Following these indications will help to prevent as much as possible any pressure surges and the consequences thereof caused during single-seat valve closing operations. The recommended direction is always contrary to the valve closing movement, that is to say, the valve shaft always works against the fluid pressure when closing the valve.

For shut-off valves it is advisable to connect the fluid inlet to the valve's bottom port.



10.2.10.32.0015

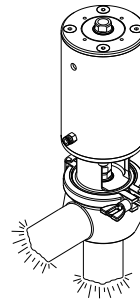
3.6. INSTALLATION

Once the valve has been installed at the desired location it can be connected to the pipeline by welding the valve body or by means of accessories (connectors). In the latter case, do not forget to install the appropriate seals and to tighten the joints well.

Before welding the valve body to the pipework, disassemble the valve to prevent damage to the seals.

Excessive stress should be avoided during the assembly of the valves and special attention should be given to the following:

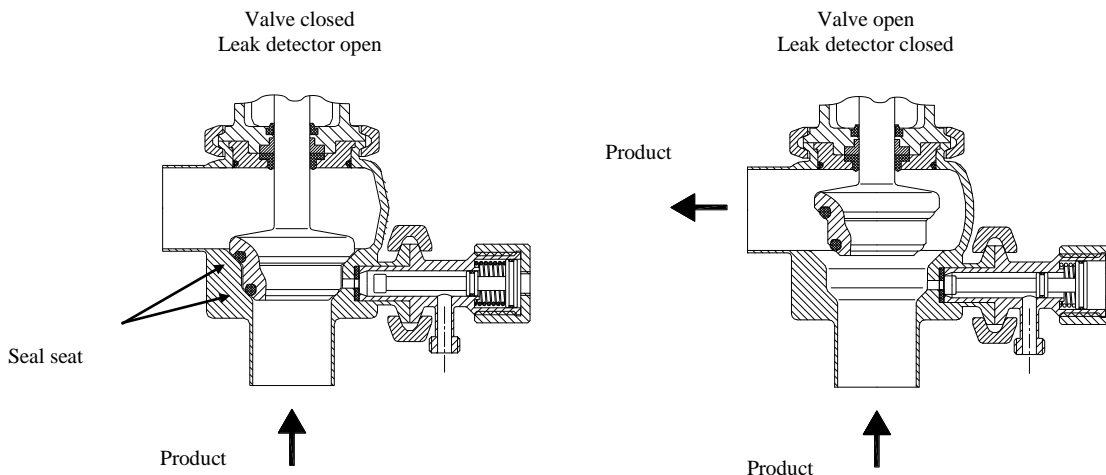
- Vibrations which may be produced during the installation.
- The expansion of the lines during the circulation of hot liquids.
- The weight that the lines can withstand.
- Excessive welding current.



10.210.32.0018

3.7. INSPECTIONS AND CHECKS

- Check the following before use:
- Check that the clamps and the nuts are well tightened.
- Open and close the valve (applying compressed air to the main actuator and to the leak detector actuator) several times to ensure that it operates correctly and check that the shaft seal fits smoothly against the valve body.



10.210.32.0019

3.8. WELDING



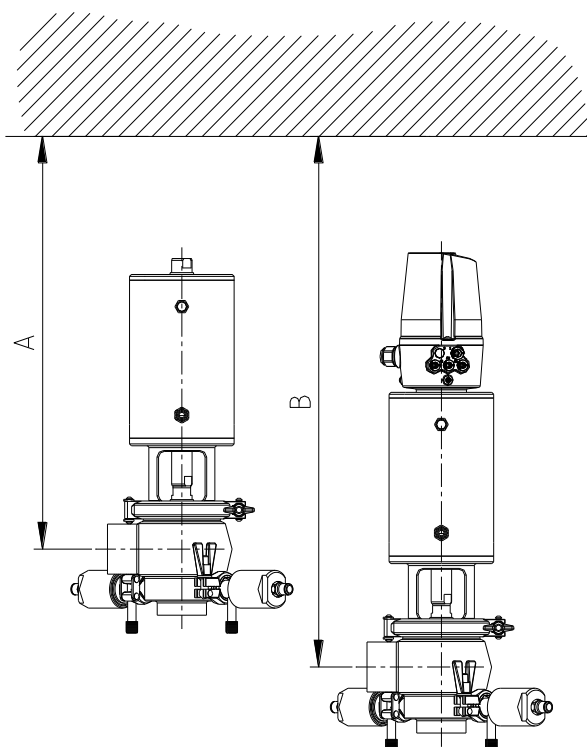
Any welding work may only be carried out by qualified personnel that has been suitably trained and equipped with the necessary means to carry out this work.

Disassemble the valve before starting the welding work.

3.8.1. Shot-off valve with welded connection

- Disassemble the valve as indicated in section 7, *Assembly and Disassembly*
- Weld the valve body to the pipework.
- When welding the valve body, it is very important to maintain the minimum distance (dimension A) which will allow the later disassembly of the valve for checks and replacement of valve parts (e.g. seals, springs, etc.), if required. It is important to note the difference when the valve has a control head. (dimension B)

| DN | A | B |
|-----|-----|-----|
| 40 | 350 | 475 |
| 50 | 440 | 565 |
| 65 | 510 | 635 |
| 80 | 530 | 655 |
| 100 | 585 | 710 |



10.210.32.0020

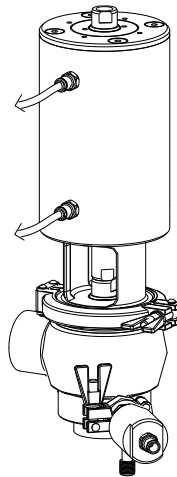
3.9. AIR CONNECTION

- INOXPA valves are supplied with $\varnothing 6$ tube connections and a silencer for S/E actuators.
- Ensure that the quality of the compressed air is in accordance with the specifications described in Chapter 8, Technical Specifications.

3.9.1. Valve actuator

- Connect and check the air connections as required; dual effect or single effect

Pneumatic connections R
1/8" (BSP) thread

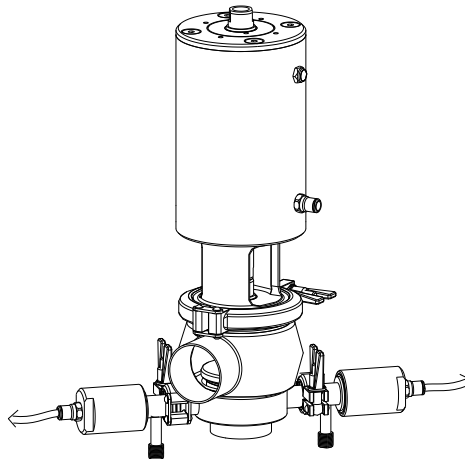


10.210.32.0021

3.9.2. Leak detector actuator

- Single-effect actuator, spring-actuated opening and air-actuated closing (NO).
- Connect and check the air connection to meet requirements, 1 or 2 leak detectors.
- Small amounts of product may be lost through the leak detector when the valve is operated; to minimise these losses, an air-flow regulator may be installed to synchronise the actuator/detector's opening/closure times.

Pneumatic connection R
1/8" (BSP) thread



210.32.0021

Pneumatic connection R
1/8" (BSP) thread

4. Start-up

The start-up of the valve can be performed provided the instructions of Chapter 3 – *Delivery and Installation* have been followed.

4.1. APPLICATIONS OF THE SHUT-OFF VALVE WITH LEAK DETECTOR

The shut-off valves with leak detector are used to open or close the flow of a fluid. The function of the detector is to detect any product leakage in case the valve fails to close.

4.2. START-UP



Before operating the valve, the persons responsible should be duly informed about the operation of the valve and the safety instructions to be followed. This instruction manual should be available to personnel at all times.

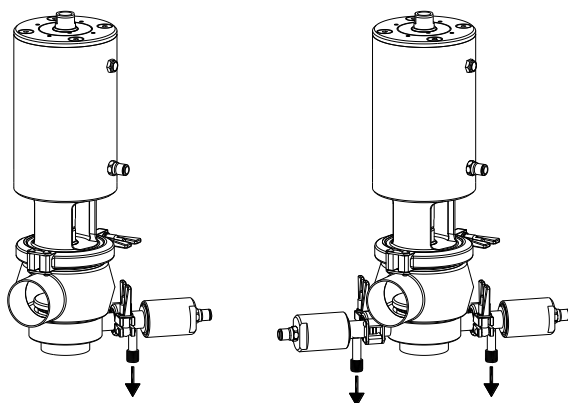
The following should be taken into consideration before starting up the valve/actuator:

- Check that the line and the valve are completely free from any traces of welding or other foreign matter. Proceed to clean the system if required.
- Verify the smooth operation of the valve. If necessary, lubricate with special grease or soapy water.
- Check the correct operation of both the valve and the leak detector.
- Check for possible leaks and check that all the lines and connections are watertight and free from leaks.
- If the valve is supplied with an actuator, ensure that the alignment of the valve shaft with the actuator shaft allows for a smooth operation.
- Check that the compressed air pressure at the intake to the actuator is that indicated in the *Technical Specifications*.
- Ensure that the quality of the compressed air is in accordance with the specifications described in Chapter 8, Technical Specifications.
- Actuate the valve.



When the valve is actuated and there is liquid in the line, the liquid can be expelled through the leak detector. The amount always depends on the pressure in the line. If the liquid is hot, corrosive, dangerous, etc., the product being discharged through the leak detector must do so in an appropriate manner and always avoiding any possible hazard for the operators.

The valve can be fitted with one or two detectors; it is important to check that there are no caps fitted on the outlet prior to starting the valve.



10.210.32.0022

4.3. OPERATION



Do not modify the operating parameters for which the valve has been designed without written prior authorisation from INOXPA.

Do not touch the moving parts of the coupling between the actuator and the valve when the actuator is connected to the compressed air supply.



Burn Hazard! Do not touch the valve or pipes when hot liquids are circulating or when cleaning and/or sterilisation is being carried out.

5. Operating problems: causes and solutions

| PROBLEM | CAUSE / EFFECT | | SOLUTION |
|---|---|--|--|
| JERKING OF THE VALVE PLUG | The seal or guide bushing is worn out, deteriorated, or blocked. | | <ul style="list-style-type: none"> • Replace the seals. • Replace the seals with others of different material and better suited for the product. • Lubricate with soapy water or lubricant compatible with the material of the seal and with the product. |
| | Insufficient air pressure. | | <ul style="list-style-type: none"> • Replace the actuator with a larger one. • Increase the compressed air pressure. |
| PRODUCT LEAKS THROUGH THE GAS DETECTOR (CLOSED VALVE) | Normal wear of the seals. | | <ul style="list-style-type: none"> • Replace the seals. |
| | Premature wearing of the seals | Watertight seal worn or affected by the product. | <ul style="list-style-type: none"> • Replace the seals with others of different material and better suited for the product. • Tighten any loose components. • Clean frequently. |
| | | Excessive pressure in the line. Excessive operating temperature. Loss of water tightness (vibrations). | |
| Backpressure | | <ul style="list-style-type: none"> • Replace the actuator with a larger one. | |
| PRODUCT LEAKS THROUGH THE GAS DETECTOR (VALVE OPEN) | Normal wear of the leak detector seals. | | <ul style="list-style-type: none"> • Replace the detector seals. |
| | Insufficient leak detector air pressure. | | <ul style="list-style-type: none"> • Increase the compressed air pressure |
| INTERNAL PRODUCT LEAK (CLOSED VALVE) | Backpressure | | <ul style="list-style-type: none"> • Replace the actuator with a larger one. |
| THE VALVE / DETECTOR IS NOT OPENING / CLOSING | Deformation of seals Actuator spring in bad condition and/or jammed (dirt) Excessive pressure on the valve plug | | <ul style="list-style-type: none"> • Replace the seals with others of different quality, if prematurely deteriorated. • Replace spring (clean) • Reduce pressure |
| PRESSURE SURGE | The flow direction is the same as closing-movement direction. | | <ul style="list-style-type: none"> • Flow direction must be contrary to the closing movement • Use auxiliary air on the bush side. |

6. Maintenance

6.1. GENERAL CONSIDERATIONS

This valve, just like any other machine, requires maintenance. The instructions contained in this manual cover the identification and replacement of spare parts. The instructions have been prepared for maintenance personnel and for those responsible for the supply of spare parts.



Carefully read Chapter 8. *Technical Specifications*.

All replaced material should be duly disposed of/recycled according to the directives in effect in the area.

Assembly and disassembly of the valves must only be carried out by qualified staff.

Before starting any maintenance work, ensure that the lines are not pressurised.

6.2. MAINTENANCE

The following is recommended for correct maintenance:

- Regular inspection of the valve and its components
- Keep a record of the operation of each valve, noting any incidents
- Always have spare seals in stock

During maintenance, pay particular attention to the danger warnings indicated in this manual.



The valve and lines should never be pressurised during maintenance.

The valve should never be hot during maintenance. Burn Hazard!

6.2.1. Maintenance of the seals.

| SEAL REPLACEMENT | |
|--------------------------|---|
| Preventive maintenance | Replace after twelve (12) months. |
| Maintenance after a leak | Replace at the end of the process. |
| Scheduled maintenance | Regularly check that there are no leaks and that the valve is operating smoothly. Keep a record of the valve. Use statistics to plan inspections. |
| Lubrication | During assembly, apply lubricants compatible with the seal material. See the following table. |

| SEAL MATERIAL | LUBRICANT | NLGI DIN 51818 Class |
|----------------|--------------------------|----------------------|
| NBR/ FPM | Klübersynth UH 1 64-2403 | 3 |
| EPDM/ NBR/ FPM | PARALIQ GTE 703 | 3 |

The time interval between each preventive maintenance operation may vary according to the working conditions to which the valve is subjected: temperature, pressure, number of actuations per day, type of cleaning solutions used, etc.

6.2.2. Storage

The valves should be stored in a closed area, under the following conditions:

Temperature from 15°C to 30°C
Air humidity <60%

Open-air storage of the equipment is **NOT** permitted.

6.2.3. Spare parts

To request spare parts, it is necessary to indicate the type of valve, the position and the description of the part which can be found in the section [Technical Specifications](#)

6.3. CLEANING



The use of aggressive cleaning products such as caustic soda and nitric acid may burn the skin.

Use rubber gloves during the cleaning process.



Always use protective goggles.

6.3.1. CIP (Clean-in-Place) cleaning

If the valve is installed in a system with a CIP process, its removal will not be required.

Cleaning solutions for CIP processes.

Only use clear water (chlorine-free) to mix with the cleaning agents:

a) Alkaline solution: 1% by weight of caustic soda (NaOH) at 70°C (150°F)

1 kg NaOH + 100 litres of water = cleaning solution

or

2.2 litres of 33% NaOH + 100 litres of water = cleaning solution

b) Acid solution: 0.5% by weight of nitric acid (HNO₃) at 70°C (150°F)

0.7 litres of 53% HNO₃ + 100 litres of water = cleaning solution



Check the concentration of the cleaning solutions; incorrect concentrations may lead to the deterioration of the valve seals.

To remove any remains of cleaning products, ALWAYS perform a final rinse with clean water upon completion of the cleaning process.



Before beginning with the disassembly and assembly tasks, clean both the interior and exterior of the valve.

6.3.2. Automatic SIP (Sterilization-in-Place)

Sterilization with steam is applied to all equipment including pigging.



Do NOT handle the equipment during the process of sterilization with steam.

The parts/materials suffer no damage if the indications specified in this manual are observed.

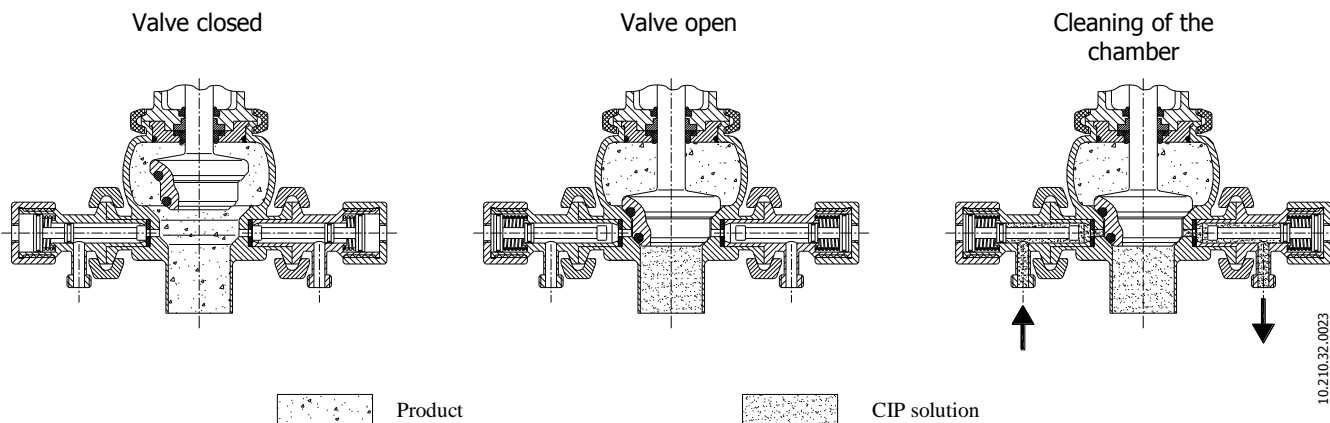
No cold liquid can enter the equipment until the temperature of the equipment is lower than 60°C (140°F).

Maximum conditions during the SIP process with steam or overheated water

- a) **Max. temperature:** 140°C / 284°F
- b) **Max. time:** 30 min.
- c) **Cooling:** Sterile air or inert gas
- d) **Materials:** EPDM / PTFE (recommended)
FPM / NBR / VMQ (not recommended)

6.3.3. Cleaning of the intermediate chamber.

The NLD or NTD shut-off valve with two leak detectors also allows for CIP or SIP cleaning of the intermediate chamber to prevent any type of contamination.
To accomplish this and with the valve closed, one detector (58) must be used as cleaning product or steam inlet and the second detector must be used as drain.



7. Assembly and disassembly



Proceed with caution. There is danger of personal injury.

Always disconnect the compressed air before starting valve disassembly.



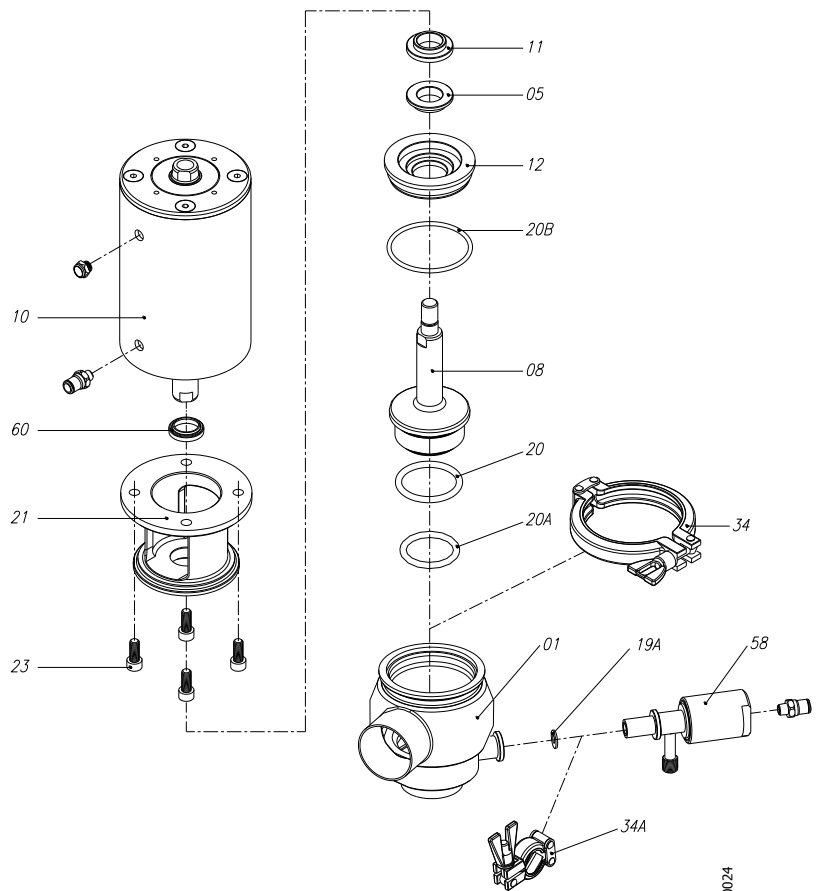
Never disassemble the valve clamps directly without reading the instructions thoroughly.

Assembly and disassembly of the valves / actuator must only be carried out by qualified staff.

7.1. DISASSEMBLY / ASSEMBLY OF THE SHUT-OFF VALVE

Disassembly

1. Remove the clamp (34A) and separate the leak detector assembly (58) and its seal (19A) from the valve body (01).
2. Apply compressed air to the actuator (10) in order to set the plug shaft (08) in the open position. (NC valve only)
3. Remove the clamp (34) and separate the actuator (10), lantern (21), shaft (08) and body cover (12) assembly from the valve body (01).
4. Release the compressed air from the actuator.
5. Separate the plug shaft (08) from the actuator shaft and remove the seat seals (20 and 20A).
6. Remove the body cover (12) and the corresponding seals (20B and 05).
7. Take out the guide bushing (11).
8. Unscrew the Allen screws (23) on the lantern (21) and remove the scraper (60).



Assembly

1. Fit the scraper (60) and guide bushing (11) in the lantern (21).
2. Place the lantern (21) underneath the actuator and screw in the four Allen screws (23).
3. Lubricate the seals with soapy water, if necessary.
4. Fit the seals (20B and 05) on the body cover (12) and place this assembly on the lantern.
5. Join the plug shaft (08) with the actuator (10).
6. Apply compressed air to the actuator in order to set the plug shaft (08) in the open position. (NC valve only)
7. Assemble the actuator (10), lantern (21), shaft (08) and body cover (12) assembly on the valve body (01) (can be turned 360° to match users' needs), and secure it with the clamp (34).
8. Release the compressed air from the actuator.
9. Fit the leak detector assembly (58) and its seal (19A) on the valve body (01) and secure it with the clamp (34A).



The following tools are required to disassemble the valve:

- 5mm (DN-25/40), 6mm (DN-50/80), and 10mm (ND-100) Allen keys.
- Two 19 mm open end spanners

10.210.32.0024



Proceed with caution. There is danger of personal injury.

Always disconnect the compressed air before beginning with the valve disassembly.



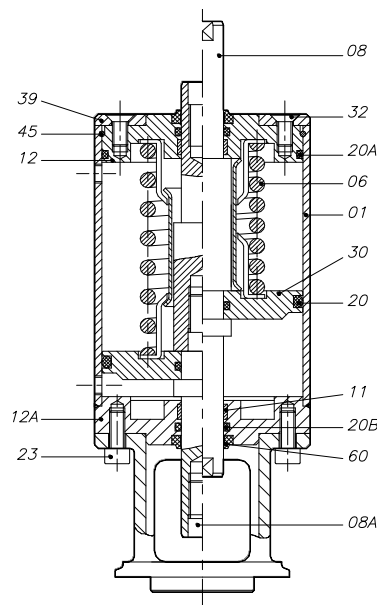
Never remove the valve clamps without first reading the instructions thoroughly.

Assembly and disassembly of the valves / actuator must only be carried out by qualified staff.

7.2. DISASSEMBLY / ASSEMBLY OF THE ACTUATOR

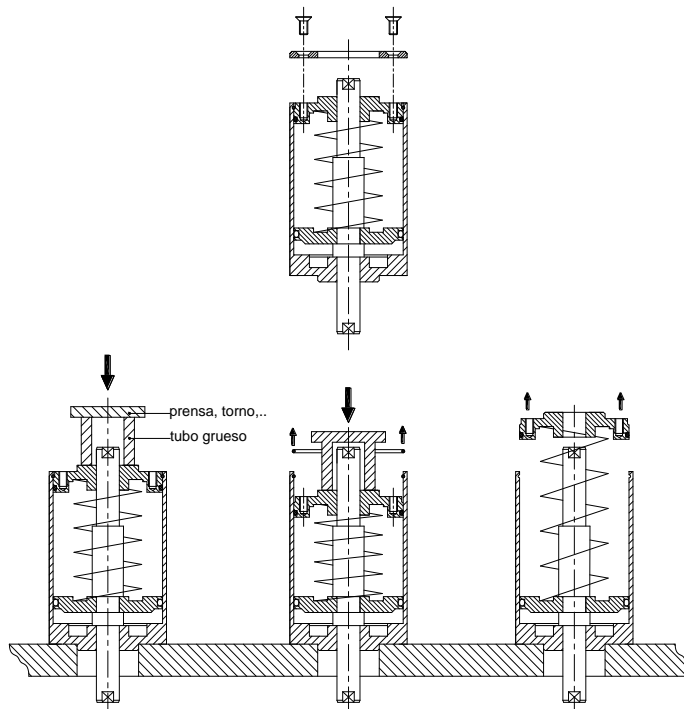
Disassembly

1. Loosen the 4 screws (32) and remove the stop flange (39).
2. Place the actuator on the base of the press or in the lathe clamp. A thick tube and a plate must be used on the free end of the actuator.
3. Apply force to the plate. Once the cover (12) has been lowered 15-20mm, remove the retention ring (45).
4. Slowly reduce the force on the plate until the top cover is free (note that the spring is no longer applying pressure).
5. Remove the cover (12) and the internal components, the spring (06) and piston (30) assembly.
6. Remove the seals (20 and 20B) from the piston (30).
7. Remove the scraper (60), seal (20B) and the guide (11) from the actuator base (12A) and from the top cover (12).



Assembly

1. Fit the scraper (60), seal (20B) and the guide (11) on the actuator base (12A) and on the top cover (12).
2. Place the seals (20 and 20B) on the piston (30).
3. Place the piston (30) and the spring assembly (06) in the cylinder (01).
4. Fit the top cover (12) on the cylinder.
5. Apply force to the plate to lower it by 15-20mm. Fit the retention ring (45)
6. Install the stop flange (39) and secure it with the 4 screws (32).
7. Apply compressed air to verify the correct operation of the actuator.
8. If the valve is to be used as NO (normally open), turn the actuator by 180°.



The following tools are required to disassemble the valve.

- 5mm (DN-25/40), 6mm (DN-50/80), and 10mm (ND-100) Allen keys.
- Screwdriver (to remove the retention ring).
- Press or lathe (to compress the spring and open the actuator).



Proceed with caution. There is danger of personal injury.

Always disconnect the compressed air before beginning with the valve disassembly.



Never remove the valve clamps without first reading the instructions thoroughly.

Assembly and disassembly of the valves / actuator must only be carried out by qualified staff.

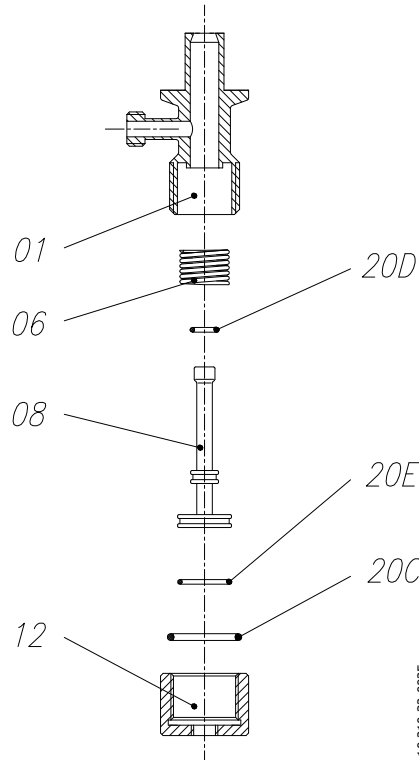
7.3. DISASSEMBLY / ASSEMBLY OF THE LEAK DETECTOR

Disassembly

1. Unscrew the cover (12) from the body (01).
2. Remove the seal (20C) from the cover (12)
3. Extract the shaft (08) and the spring (06) from the body (01).
4. Remove the seals (20E and 20D) from the piston shaft (08).

Assembly

5. Fit the seals (20E and 20D) on the piston shaft (08).
6. Insert the spring (06) and the shaft (08) in the body (01).
7. Place the seal (20C) inside the cover (12)
8. Screw the cover (12) on the body (01).



The following tools are required to disassemble the leak detector.

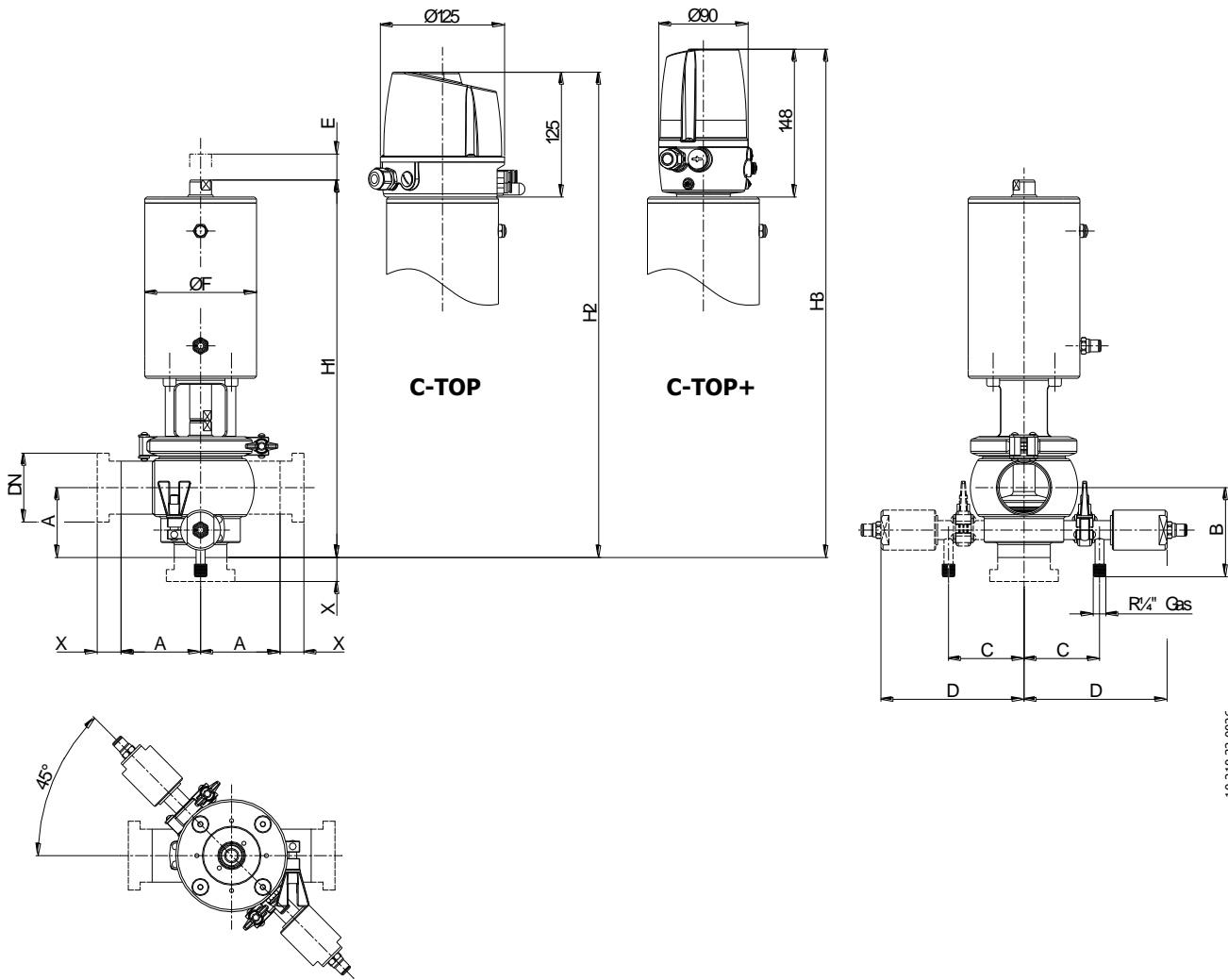
- 30 mm open end spanner

8. Technical specifications

| GENERAL DATA FOR THE VALVE | | | |
|---|---|--------------------|--------------------|
| Maximum working pressure | DN-40/100 | 10 bar | |
| Minimum working pressure | Vacuum | | |
| Maximum working temperature | 121°C (250 °F) Standard EPDM seals (other seal materials supplied for higher temperatures) | | |
| Compressed air pressure | 6-8 bar | | |
| Compressed air quality | In accordance with DIN/ISO 8573.1 <ul style="list-style-type: none"> ○ <u>Solid particle content</u>: Class 3 quality / Max. particle size 5 micron / Max. particle density 5 mg/m³ ○ <u>Water content</u>: Class 4 quality / max. dew point +2°C. If the valve is used at higher altitudes or at low ambient temperatures, the dew point must be adapted accordingly ○ <u>Oil content</u>: Class 5 quality, preferably oil-free / max. 25 mg oil per 1 m³ air | | |
| Compressed air connection | R1/8" (BSP) | | |
| Compressed air consumption (litres/cycle) | DN | SE (Single Effect) | DE (Double effect) |
| | 40 | 0.13 | 0.26 |
| | 50 | 0.29 | 0.58 |
| | 65 | 0.5 | 1 |
| | 80 | 0.5 | 1 |
| | 100 | 1.5 | 3 |

| VALVE MATERIALS | |
|-----------------------------------|--|
| Parts in contact with the product | AISI 316L (1.4404) |
| Other steel parts | AISI 304 (1.4301) |
| Seals in contact with the product | EPDM (Standard) - NBR - VITON |
| Surface finish | In contact with the product: Ra ≤ 0.8 µm Exterior surfaces: machined finish (turned on lathe) |
| Type of connections | DIN 11851 (standard) Welding, FIL-IDF, BS-RJT, SMS, clamp, flanges, Macon. |

8.1. DIMENSIONS OF THE SHUT-OFF VALVE WITH LEAK DETECTOR

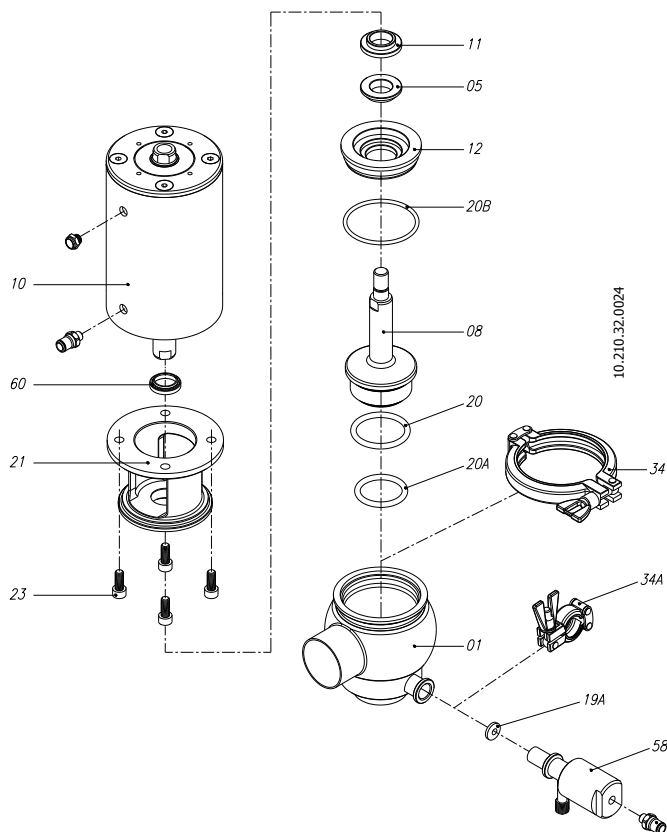


10.210.32.0026

| DN | A | B | C | D | ØF | E | H1 | H2 | H3 | X | | |
|-----|-----|-----|-----|-----|-------|----|-----|-----|-----|-------------------|-------------------|-----------|
| | | | | | | | | | | Macho-Male DIN | Tuerca-Nut DIN | Clamp DIN |
| 40 | 60 | 83 | 70 | 110 | 112.5 | 22 | 288 | 388 | 411 | 22 | 15 | 21.5 |
| 50 | 70 | 93 | 75 | 115 | 112.5 | 32 | 359 | 459 | 482 | 23 | 16 | |
| 65 | 80 | 100 | 90 | 130 | 143 | 36 | 422 | 522 | 545 | 25 | 17 | 28 |
| 80 | 90 | 110 | 95 | 135 | 143 | 36 | 440 | 540 | 563 | 25 | 17 | |
| 100 | 125 | 123 | 105 | 145 | 216 | 36 | 482 | 582 | 605 | 30 | 20 | |

8.2. EXPLODED VIEW AND PARTS LIST

8.2.1. Exploded view and parts list FIG.NLD/NTD

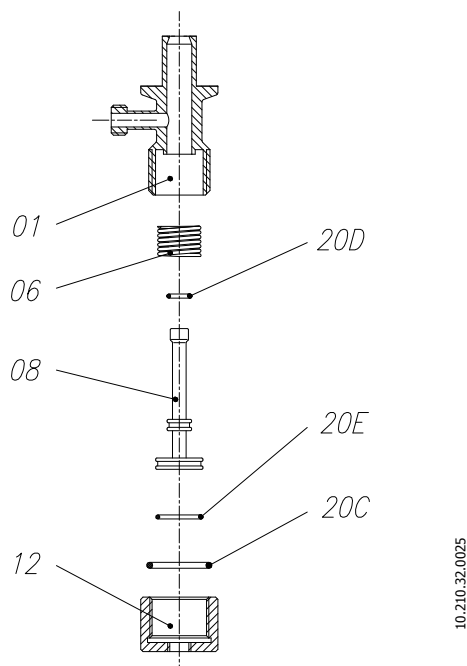


- Fig. NDL/NTD Pneumatic actuation

| ITEM | DESIGNATION | MATERIAL | QUANTITY |
|------|---------------------|-----------|-----------|
| 01 | Lower body L/T | AISI 316L | 1 |
| 05 | Shaft seal | EPDM | 1 |
| 08 | Valve shaft | AISI 316L | 1 |
| 10 | Actuator | AISI 304 | 1 |
| 11 | Guide bushing | PTFE | 1 |
| 12 | Body cover | AISI 316L | 1 |
| 19A | Flat washer | EPDM | 1 or 2 ** |
| 20 | O-ring | EPDM | 1 |
| 20A | O-ring | EPDM | 1 |
| 20B | O-ring | EPDM | 1 |
| 21 | Lantern | AISI 304 | 1 |
| 23 | DIN 912 Allen screw | A2 | 4 |
| 34 | Clamp | AISI 304 | 1 |
| 34A | Clamp | AISI 304 | 1 or 2 ** |
| 58 | Leak detector | AISI 316L | 1 or 2 ** |
| 60 | Scraper | NBR | 1 |

** Depending on number of leak detectors on the valve

8.2.2. Exploded view and parts list FIG. Leak detector

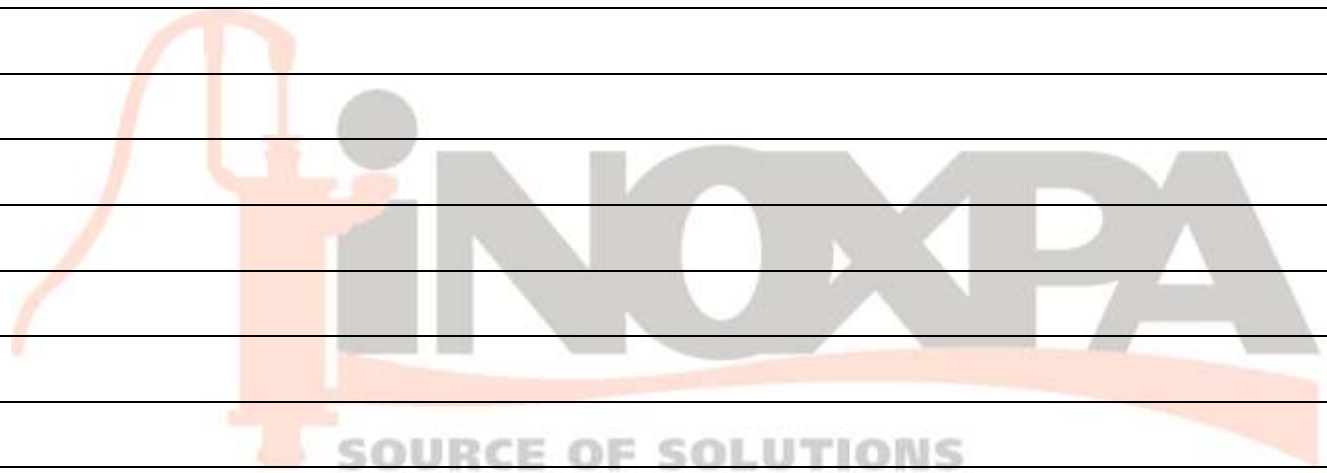


- Fig. Leak detector

| ITEM | DESIGNATION | MATERIAL | QUANTITY |
|------|-------------|-----------|----------|
| 01 | Body | AISI 316L | 1 |
| 06 | Spring | AISI 302 | 1 |
| 08 | Shaft | AISI 316L | 1 |
| 12 | Cover | AISI 304L | 1 |
| 20C | O-ring | EPDM | 1 |
| 20D | O-ring | EPDM | 1 |
| 20E | O-ring | EPDM | 1 |

NOTES

[Blank lined area for notes]



[Blank lined area for notes]

**INOXPA, S.A.**

c/ Telers, 54 – PO Box 174
17820 BANYOLES (GIRONA)
Tel: 34 972575200
Fax: 34 972575202
e-mail: inoxpa@inoxpa.com
www.inoxpa.com

DELEGACIÓN LEVANTE

PATERNA (VALENCIA)
Tel: 963 170 101
Fax: 963 777 539
e-mail: inoxpa.levante@inoxpa.com

LA CISTÉRNIGA (VALLADOLID)

Tel: 983 403 197
Fax: 983 402 640
e-mail: sta.valladolid@inoxpa.com

INOXPA SOLUTIONS LEVANTE

PATERNA (VALENCIA)
Tel: 963 170 101
Fax: 963 777 539
e-mail: isf@inoxpa.com

ST. SEBASTIEN sur LOIRE

Tel/Fax: 33 130289100
e-mail: inoxpa.fr@inoxpa.com

INOXPA ALGERIE

ROUIBA
Tel: 213 21856363 / 21851780
Fax: 213 21854431
e-mail: inoxpalgerie@inoxpa.com

INOXPA UK LTD

SURREY
Tel: 44 1737 378 060 / 079
Fax: 44 1737 766 539
e-mail: inoxpa-uk@inoxpa.com

INOXPA SKANDINAVIEN A/S

HORSENS (DENMARK)
Tel: 45 76 286 900
Fax: 45 76 286 909
e-mail: inoxpa.dk@inoxpa.com

**INOXPA SPECIAL PROCESSING
EQUIPMENT, CO., LTD.**

JIAXING (China)
Tel.: 86 573 83 570 035 / 036
Fax: 86 573 83 570 038

INOXPA WINE SOLUTIONS

VENDARGUES (FRANCE)
Tel: 33 971 515 447
Fax: 33 467 568 745
e-mail: frigail.fr@inoxpa.com /
npourtaud.fr@inoxpa.com

DELEGACIÓN NORD-ESTE /

BARBERÀ DEL VALLÈS (BCN)
Tel: 937 297 280
Fax: 937 296 220
e-mail: inoxpa.nordeste@inoxpa.com

DELEGACIÓN CENTRO

ARGANDA DEL REY (MADRID)
Tel: 918 716 084
Fax: 918 703 641
e-mail: inoxpa.centro@inoxpa.com

LOGROÑO

Tel: 941 228 622
Fax: 941 204 290
e-mail: sta.rioja@inoxpa.com

INOXPA SOLUTIONS FRANCE

GLEIZE
Tel: 33 474627100
Fax: 33 474627101
e-mail: inoxpa.fr@inoxpa.com

WAMBRECHIES

Tel: 33 320631000
Fax: 33 320631001
e-mail: inoxpa.nord.fr@inoxpa.com

INOXPA SOUTH AFRICA (PTY) LTD

JOHANNESBURG
Tel: 27 117 945 223
Fax: 27 866 807 756
e-mail: sales@inoxpa.com

S.T.A. PORTUGUESA LDA

VALE DE CAMBRA
Tel: 351 256 472 722
Fax: 351 256 425 697
e-mail: comercial.pt@inoxpa.com

IMPROVED SOLUTIONS

VALE DE CAMBRA
Tel: 351 256 472 140 / 138
Fax: 351 256 472 130
e-mail: isp.pt@inoxpa.com

INOXRUS

MOSCOW (RUSIA)
Tel / Fax: 74 956 606 020
e-mail: moscow@inoxpa.com

INOXPA UCRANIA

KIEV
Tel: 38 050 720 8692
e-mail: kiev@inoxpa.com

ZARAGOZA

Tel: 976 591 942
Fax: 976 591 473
e-mail: inoxpa.aragon@inoxpa.com

DELEGACIÓN STA

GALDACANO (BILBAO)
Tel: 944 572 058
Fax: 944 571 806
e-mail: sta@inoxpa.com

DELEGACIÓN SUR

JEREZ DE LA FRONTERA (CÁDIZ)
Tel / Fax: 956 140 193
e-mail: inoxpa.sur@inoxpa.com

CHAMBLY (PARIS)

Tel: 33 130289100
Fax: 33 130289101
e-mail: isf@inoxpa.com

INOXPA AUSTRALIA PTY (LTD)

MORNINGTON (VICTORIA)
Tel: 61 3 5976 8881
Fax: 61 3 5976 8882
e-mail: inoxpa.au@inoxpa.com

INOXPA USA, Inc

SANTA ROSA
Tel: 1 7075 853 900
Fax: 1 7075 853 908
e-mail: inoxpa.us@inoxpa.com

INOXPA ITALIA, S.R.L.

BALLO DI MIRANO – VENEZIA
Tel: 39 041 411 236
Fax: 39 041 5128 414
e-mail: inoxpa.it@inoxpa.com

INOXPA INDIA PVT. LTD.

Maharashtra, INDIA.
Tel: 91 2065 008 458
inoxpa.in@inoxpa.com

SAINT PETERSBURG (RUSIA)

Tel: 78 126 221 626 / 927
Fax: 78 126 221 926
e-mail: spb@inoxpa.com

In addition to our branches, INOXPA has a network of independent distributors in over 50 countries worldwide. For further information, visit our website. www.inoxpa.com

Information is for guidance only. We reserve the right to modify any material or characteristic without prior notice.