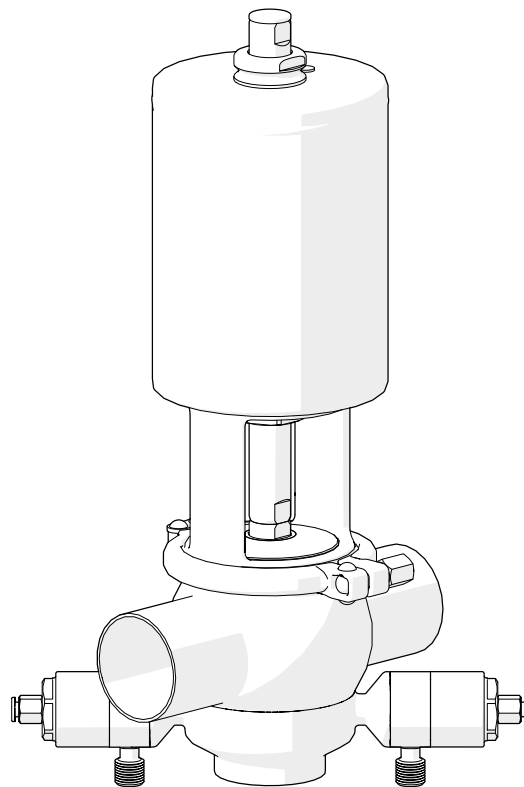


INSTALLATION, SERVICE AND MAINTENANCE INSTRUCTIONS

# DOUBLE SEAL MIXPROOF VALVE

# INNOVA D



10.246.32.0046



Original Instructions

10.246.30.12EN

(0) 2024/01

# EC Declaration of Conformity



**INOXPA S.A.U.**  
Telers, 60  
17820 - Banyoles (Spain)

hereby declare under our sole responsibility that the

Machine: **DOUBLE SEAL MIXPROOF VALVE**

Model: **INNOVA**

Type: **D**

Size: **DN 25 - DN 100 / OD 1" - OD 4"**

Serial number: **IXXXXXXXXXX to IXXXXXXXXXX**  
**XXXXXXXXXXIINXXX to XXXXXXXXXXXIINXXX**

fulfills all the relevant provisions of the following directive:

**Machinery Directive 2006/42/EC**  
**Pressure Equipment Directive 2014/68/EU<sup>1</sup>**  
**Regulation (EC) n° 1935/2004**  
**Regulation (EC) n° 2023/2006**

and with the following harmonized standards and/or regulations:

**EN ISO 12100:2010, EN ISO 13732-1:2008, EN 1672-2:2005+A1:2009,**  
**EN ISO 14159:2008, EN 12266-1:2012, EN 19:2016**

The technical file has been prepared by the signer of this document.

David Reyer Brunet  
Technical Office Manager  
11th January 2024



Document: 10.246.30.10EN  
Revision: (0) 2024/01

<sup>1</sup>DN≤25 Designed and manufactured in accordance with the sound engineering practice  
DN>25 Class I equipment. Conformity assessment procedure used: Module A

# Declaration of Conformity



**INOXPA S.A.U.**

Telers, 60  
17820 - Banyoles (Spain)

hereby declare under our sole responsibility that the

Machine:	<b>DOUBLE SEAL MIXPROOF VALVE</b>
Model:	<b>INNOVA</b>
Type:	<b>D</b>
Size:	<b>DN 25 - DN 100 / OD 1" - OD 4"</b>
Serial number:	<b>IXXXXXXXXXX to IXXXXXXXXXX XXXXXXXXXXIINXXX to XXXXXXXXXXXIINXXX</b>

fulfills all the relevant provisions of these regulations:

**Supply of Machinery (Safety) Regulations 2008  
Pressure Equipment (Safety) Regulations 2016<sup>1</sup>**

and with the following designated standards:

**EN ISO 12100:2010, EN ISO 13732-1:2008, EN 1672-2:2005+A1:2009,  
EN ISO 14159:2008, EN 12266-1:2012, EN 19:2016**

The technical file has been prepared by the signer of this document.

A handwritten signature in black ink, appearing to read "David Reyer Brunet".

David Reyer Brunet  
Technical Office Manager  
11th January 2024



Document: 10.246.30.11EN  
Revision: (0) 2024/01

<sup>1</sup>DN≤25 Designed and manufactured in accordance with the sound engineering practice  
DN>25 Class I equipment. Conformity assessment procedure used: Module A

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## 2. Generalities

### 2.1. INSTRUCTIONS MANUAL

This manual contains information about the reception, installation, operation, assembly and maintenance of the double seal mixproof valve INNOVA D.

Carefully read the instruction prior to starting the valve, familiarize yourself with the installation, operation and correct use of the valve and strictly follow the instructions. These instructions should be kept in a safe location near the installation area.

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

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

### 2.2. COMPLIANCE WITH THE INSTRUCTIONS

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

This non-compliance may cause 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.

### 2.3. WARRANTY

The conditions of the warranty are specified in the General Sales Condition that has been delivered at the time of placing your order.



The machine may not undergo any modification without prior approval from the manufacturer.

For your safety, only use original spare parts and accessories. The usage of other parts will relieve the manufacturer of any liability.

Changing the service conditions can only be carried out with prior written authorization from INOXPA.

The non-compliance of the prescribed indications in this manual means misuse of this gear on the technical side and the personal safety and this exempts INOXPA of all responsibility in case of accidents and personal injuries and/or property damage. Also, excluded from the warranty all breakdowns caused by improper use of the gear.

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

# 3. Safety

## 3.1. WARNING SYMBOLS



Safety hazard for people in general and/or equipment

### ATTENTION

Important instruction to prevent damage to the equipment and/or its function

## 3.2. GENERAL SAFETY INSTRUCTIONS



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

### 3.2.1. During installation



Always take into account the [Technical Specifications of chapter 9](#).

The installation and use of the valve should always be in accordance with applicable regulations regarding health and safety.

Before starting up the valve, check that it is assembled correctly and its shaft is perfectly aligned. Incorrect alignment and/or excessive stress during coupling can cause serious mechanical problems in the valve.

### 3.2.2. During operation



Always take into account the [Technical Specifications of chapter 9](#).

NEVER exceed the specified limit values.

NEVER touch the valve and/or piping that is in contact with the fluid during operation. If the process involves hot products there is a risk of burns.

The valve contains parts that move in a linear fashion. Do not place hands or fingers in the valve closing area. This can cause serious injury.

### 3.2.3. During maintenance



Always take into account the [Technical Specifications of chapter 9](#).

NEVER disassemble or remove the valve until the pipes have been emptied. Bear in mind that the fluid in the pipe may be hazardous or extremely hot. Consult the regulations in effect in each country for these cases.

Inside the actuator there is a spring with an applied load. The steps specified in this manual must be followed when performing maintenance operations to avoid injury.

Do not leave loose parts on the floor.

## 4. General Information

### 4.1. DESCRIPTION

The INNOVA D valve is a pneumatic shut-off single-seat valve with two seals that, through a leakage chamber under atmospheric pressure formed between the two seals, enables a safe separation of two products, one of which is usually CIP (cleaning medium).

Compressed air application on the actuator and leak detectors is simultaneous to avoid product losses through the leak detector when the valve is opened. When the valve is open, the leak detectors are closed, and vice versa to detect any product leak in case the valve does not close correctly.

The leakage chamber is cleaned through one of the available leak detectors.

### 4.2. APPLICATION

The INNOVA D valve are suitable for a wide range of applications in the food, beverage, pharmaceutical and chemical industries.

# 5. Installation

## 5.1. RECEPTION OF THE VALVE



INOXPA is not liable for any deterioration of the material caused by its transport or unpacking.

When receipt the valve, check to see whether all the parts listed on the delivery slip are present:

- complete valve,
- its components if any are supplied,
- instruction manual.

INOXPA inspects all its equipment before packaging. However, it cannot guarantee that the merchandise arrives at the user intact.

When unpacking the valve:

- remove any possible traces of packaging from the valve or its parts,
- inspect the valve or the parts that comprise it for possible damage incurred during shipping,
- take all possible precautions against damage to the valve and its components.

## 5.2. TRANSPORT AND STORAGE



The buyer or user shall be liable for assembly, installation, start-up and operation of the valve.

Take all possible precautions when transport and storage the valve to avoid damage it and its components.

## 5.3. IDENTIFICATION OF THE VALVE

Each valve is inscribed with its fabrication number. Indicate the fabrication number on all documents to refer to the valve.

 	
INOXPA S.A.U. C. TELERS, 60 - 17820 BANYOLES GIRONA (SPAIN) . www.inoxpa.com	
<b>Type</b> <b>Serial</b> <b>Air</b>	<b>Size</b> <b>Year</b>

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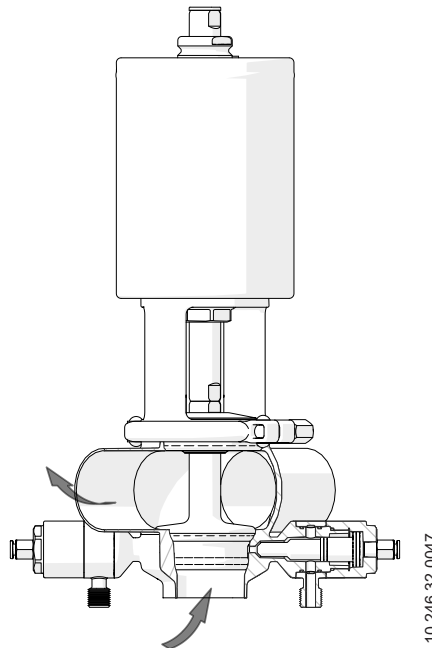
WB	D	D	0	-	0	06	52	050	12	0
										<b>Options</b>
										0 ID Ra ≤ 0,8
										1 ID Ra ≤ 0,5
										<b>Actuator</b>
										11 T1 A/S NC
										12 T2 A/S NC
										13 T3 A/S NC
										14 T4 A/S NC
										<b>Size</b>
										025 DN 25, OD 1"      065 DN 65
										040 DN 40, OD 1½"      076 OD 3"
										050 DN 50, OD 2"      080 DN 80
										063 OD 2½"      100 DN 100, OD 4"
										<b>Seals</b>
										43 HNBR
										52 EPDM
										78 FPM
										<b>Material</b>
										06 1.4404 (AISI 316L)
										<b>Connection</b>
										0 weld
										1 male
										7 clamp
										<b>Standard pipe</b>
										0 DIN
										1 OD
										<b>Body configuration</b>
										A,B,C,D      1 body
										<b>Type</b>
										D double seal mixproof valve
										<b>Product family</b>
										WB INNOVA valve

## 5.4. LOCATION

Place the valve leaving enough space around it to realize easily the dismantling, the inspection and the review the valve as well as in order to access to the actuator air connection's device for valves with automatic actuation even when the valve is operating. Consult in chapter 5.8. [Welding](#) the required minimum distances. The installation should allow that the removable parts are could remove easily.

## 5.5. DIRECTION OF FLOW

The recommended direction of flow is contrary to the movement of the valve closing so that when the valve is closing, the valve will always work against the fluid pressure. Follow these indications to avoid the water hammer, which can occur when valves close, minimising its consequences. The next figures show the recommende direction of flow as well as the direction of closing.



## 5.6. GENERAL INSTALLATION

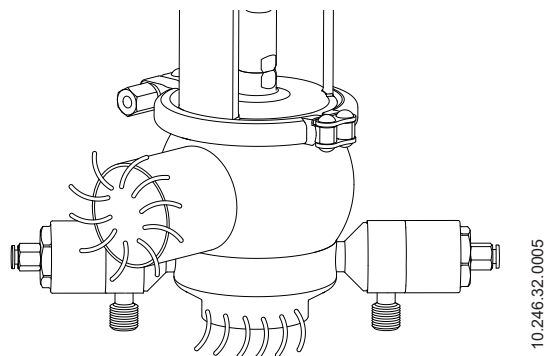
After the location of the valve is defined, the valve can be joined to the pipe by welding the valve housing or using fittings.

In case of joining the valve to the pipe by fittings do not forget the seals and tighten the unions properly.

If instead, the valve is joined by welding, before starting to weld the valve bodies to the pipe disassemble the valve to prevent damage to the joints, following the instructions in chapter 8.4. [Disassembly and assembly the valve.](#)

During installation, the valve avoids using excessive force and pay special attention to:

- vibrations that may be produced on the facility,
- hermal dilation that the pipe may undergo when hot fluids are circulating,
- the weight that the pipe can support,
- excessive welding current.



## 5.7. CHECKING AND REVIEW

Perform the following checks before using the valve:

- check that the clamps and nuts are tightened,
- open and close the valve, applying compressed air to the actuator, several times to make sure it operates correctly and that the shaft seal is coupled smoothly to the valve body.

## 5.8. WELDING



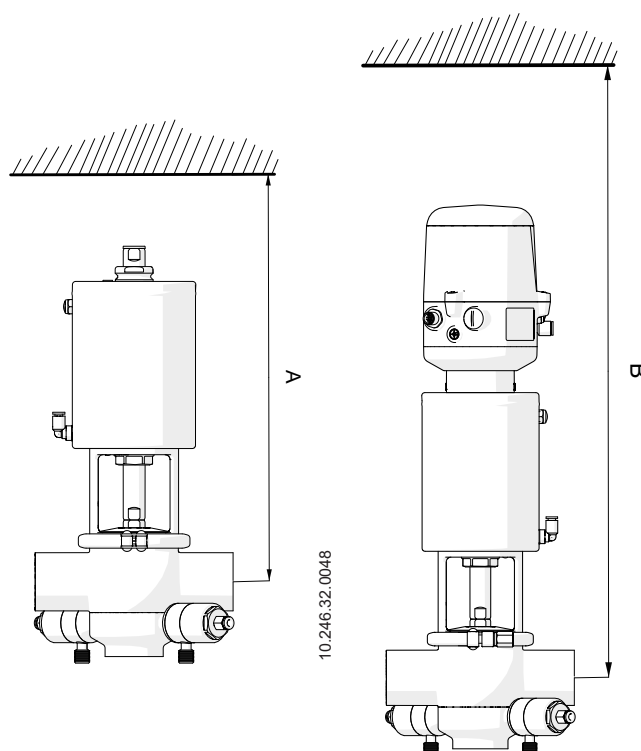
Welding work should only be done by qualified persons who are trained and equipped with the necessary equipment to perform this kind of work.

To perform the welding works:

- disassemble the valve as indicated in chapter 8.4. [Disassembly and assembly the valve](#),
- weld the valve body to the pipes maintaining the distance indicated in the following table. This will allow for the disassembly of the valve, doing the subsequent reviews and changing the necessary valve pieces like seals, bushings, etc.

DIN - OD	A [mm]	B [mm]
25 - 1"	310	450
40 - 1½"	310	460
50 - 2"	360	510
65 - 2½"	380	530
80 - 3"	380	530
100 - 4"	410	560

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## 5.9. VALVE CONFIGURATION WITH ACTUATOR

The standard configuration of the valves is NC (normally closed).



Always disconnect the compressed air before starting to disassemble the valve. Never disassemble the valve clamps directly without reading the instructions carefully, since the actuator contains a spring inside it with an applied load. Valve and actuator assembly and disassembly should only be done by qualified persons.

## 5.10. ACTUATOR AIR CONNECTION

### ACTUATOR

To perform the air connection to the actuator:

- connect and check the air connections (G 1/8" thread for tubing Ø6 mm) with thread in accordance with double-effect or simple effect needs.
- mind the quality of the compressed air according to the specifications described in chapter 9. [Technical Specifications](#).

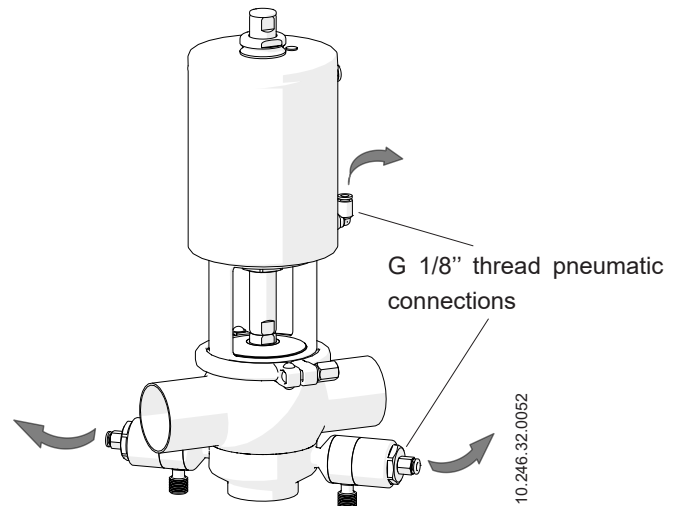
Depending on the configuration, the actuator may have one or two air connections.

### LEAK DETECTOR

Single-effect actuator, spring-actuated opening and air-actuated closing (NO).

Connect and check the air connections.

When the valve is activated, the leak detectors can lose a few quantities of product. To minimize the losses, you can install an airflow regulator to synchronize the opening and closing times of the actuator and the leak detectors.



## 6. Start-up



Read carefully the instructions in chapter 5. [Installation](#) before start-up the valve.



Before start-up, the persons in charge must be duly informed about how the valve works and the safety instructions to follow. This instruction manual will be available to personnel at all times.

Before putting the valve or the actuator into service the following must be taken into consideration:

- check that the piping and valve are completely free of possible traces of welding slag or other foreign particles. Clean the system if necessary,
- check to make sure the valve moves smoothly. If necessary, lubricate it with special grease or soapy water,
- check for possible leaks, and make sure the pipes and their connections are sealed and do not have any leaks,
- if the valve has been supplied with an actuator, make sure that the alignment of the valve shaft and the actuator shaft enables smooth movement,
- check that the compressed air pressure at the inlet of the actuator matches what is indicated in chapter 9. [Technical Specifications](#),
- consider the quality of the compressed air, according to the specifications described in chapter 9. [Technical Specifications](#),
- activate the valve.

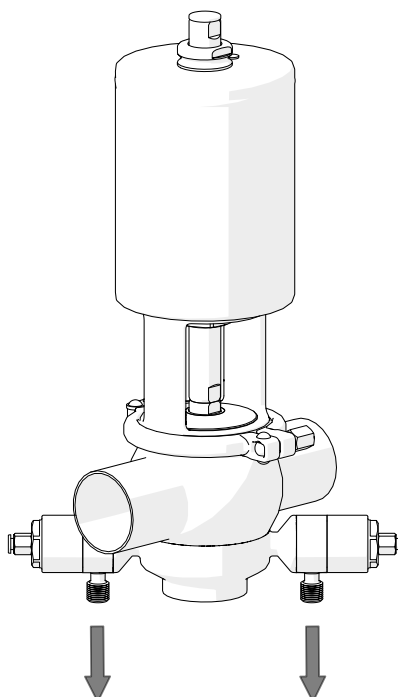
Adjust the synchronization between the valve activation and the leak detector activation to minimize the product losses of the line.



The quantity of the product through the detector always depends on the line pressure. If the liquid is hot, corrosive, dangerous, etc., the liquid waste should be collected adequately and always avoid any potential risk to the personnel.

Verify that there are no covers on the leak detectors before activating the valve.

The ring is steerable. It is recommended that it is oriented downward to facilitate the drainage.



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**ATTENTION**



Do not modify the operating parameters for which the valve has been designed without prior written 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 the pipes when hot fluids are circulating or when cleaning and/or sterilization are being carried out.

# 7. Operating problems

Water hammer	
Valve does not open/close	
Internal leak of product (valve closed)	
Product leaks through leak detector valve (valve open)	
Product leaks through leak detector valve (valve closed)	
The valve plug is sticking	
POSSIBLE CAUSES	SOLUTIONS
<ul style="list-style-type: none"> <li>The seal or guide bushing is worn, deteriorated or has gotten stuck</li> </ul>	Replace the seals. Replace the seals with ones made of a different material or grade that is more appropriate for the product. Lubricate with soapy water or a lubricant that is compatible with the seal material and the product.
<ul style="list-style-type: none"> <li>Insufficient air pressure</li> </ul>	Replace the actuator with a larger one. Increase the compressed air pressure.
<ul style="list-style-type: none"> <li>Normal seal wear</li> </ul>	Replace the seals.
<ul style="list-style-type: none"> <li>Premature wear of the seal/affected by the product</li> </ul>	Replace the seals with ones made of a different material or grade that is more appropriate for the product. Reduce the pressure in the line. Lower the operating temperature.
<ul style="list-style-type: none"> <li>Backpressure</li> </ul>	Replace the actuator with a larger one.
<ul style="list-style-type: none"> <li>Normal wear of the leak detector seals</li> </ul>	Replace the leak detector shaft.
<ul style="list-style-type: none"> <li>Insufficient leak detector air pressure</li> </ul>	Increased the compressed air pressure
<ul style="list-style-type: none"> <li>Product residue has deposited on the valve seat and/or plug</li> </ul>	Clean frequently.
<ul style="list-style-type: none"> <li>Excess product pressure</li> </ul>	Replace the actuator with a larger one. Connect an auxiliary compressed air nipple on the side of the spring to offset the excess pressure without exceeding 4 bar. Reduce the product pressure.
<ul style="list-style-type: none"> <li>Loss of seal (vibrations)</li> </ul>	Tighten loose parts.
<ul style="list-style-type: none"> <li>Product pressure exceeds the actuator specifications</li> </ul>	Replace the actuator with a larger one. Reduce the product pressure. Use auxiliary air on the spring side.
<ul style="list-style-type: none"> <li>Warping of seals</li> </ul>	Replace the seals with ones of a different quality if they have deteriorated prematurely.
<ul style="list-style-type: none"> <li>Actuator spring is in poor condition and/or suck (dirty)</li> </ul>	Replace the spring or clean.
<ul style="list-style-type: none"> <li>The direction of flow is the same as the direction of closing</li> </ul>	The direction of flow should go against the direction of closing. Choke the air discharge to reduce the pressure.

# 8. Maintenance

## 8.1. GENERAL CONSIDERATIONS

This valve, just like any other machine, requires maintenance. The instructions in this chapter cover the maintenance of the valve, the identification and replacement of the spare parts and the disassembly and assembly of the valve. The instructions are aimed at maintenance personnel and those responsible for the supply of spare parts.



Read carefully the chapter [9. Technical Specifications](#).

Maintenance work should only be done by qualified persons who are trained and equipped with the necessary equipment to perform this kind of work.

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

Make sure that the pipes are not under pressure before starting maintenance work..

## 8.2. MAINTENANCE

To perform maintenance properly is recommended:

- periodic inspection of the valve and its components,
- keeping an operational record of each valve writing down any problems,
- always having spare replacement seals in stock.

Pay special attention to the hazard warnings indicated in this manual during the performance of the maintenance work.



The valve and the pipes must never be under pressure during maintenance.

⚠ Burn hazard! Do not touch the valve or the pipes when hot fluids are circulating or when cleaning and/or sterilization are being carried out.

The time interval between each preventive maintenance may vary in accordance with the work conditions to which the valve is subject: temperature, pressure, number of operations per day, type of cleaning solutions used, etc.

### 8.2.1. Maintenance of the seals

REPLACING SEAL	
Preventive maintenance	Replace after 12 months
Maintenance after a leak	Replace at the end of the process
Planned maintenance	Regularly check the absence of leaks and the smooth operation of the valve. Keep a record of the valve's maintenance. Use statistics for planning inspections.
Lubrication	During assembly, apply lubricants that are suitable with the material of which the seat seal is made. See the following table.

SEAL COMPONENT	LUBRICANT	NLGI DIN 51818 Class
HNBR / FPM	klübersynth UH 1 64-2403	3
EPDM / HNBR / FPM	PARALIQ GTE 703	3



### 8.2.2. Storage

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

- temperature between 15°C y 30°C,
- air humidity < 60%

Storage of the equipment outdoors is NOT allowed.

### 8.2.3. Spare parts

To request spare parts is necessary to indicate the type of valve, the size, the fabrication number, the position and the description of the part which can be found in chapter 9. [Technical Specifications](#).

## 8.3. CLEANING



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

Wear rubber gloves during all cleaning procedures.

Always wear protective goggles.

### 8.3.1. CIP (clean-in-place) cleaning

If the valve is installed in a system with a CIP process, its disassembly will not be required. EPDM is the standard seal material that will be used for CIP cleaning, both in alkaline mediums and in acid mediums. The materials of the seal HNBR and FPM are not recommended.

Two types of solutions can be used for CIP processes:

**a. alkaline solution:** 1% by weight of caustic soda (NaOH) at 70°C (150°F). To make this solution:

1 kg NaOH + 100 l H<sub>2</sub>O<sup>1</sup> = cleaning solution

2,2 l NaOH at 33% + 100 l H<sub>2</sub>O = cleaning solution

**b. acid solution:** 0,5% by weight of nitric acid (HNO<sub>3</sub>) at 70°C (150°F). To make this solution:

0,7 l HNO<sub>3</sub> at 53% + 100 l H<sub>2</sub>O = solución de limpieza

1) only use chlorine-free water to mix with the cleaning agents

#### ATTENTION



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

To remove any traces of cleaning products, ALWAYS perform a final rinse with clean water at the end of the cleaning process.



Clean the entire interior and exterior of the valve before starting disassembly and assembly tasks.

### 8.3.2. Automatic SIP (sterilization-in-place)

Sterilization with steam is applied to all equipment including the pipping.

**ATTENTION**

Do NOT start the equipment during the sterilization with steam.

The parts and the materials will not be damaged if the indications specified in this manual are observed.

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

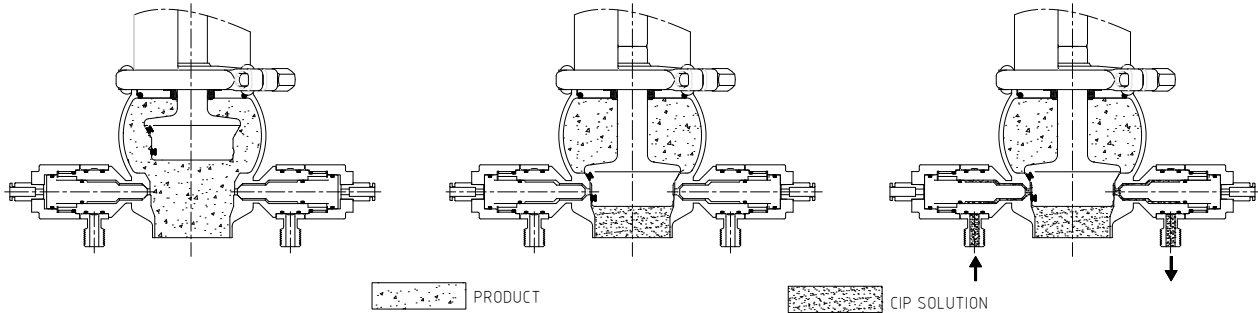
Maximum conditions during the SIP process with steam or superheated water:

- a. maximum temperature: 140°C / 284°F
- b. maximum time: 30 min
- c. cooling: sterile air or inter gas
- d. materials: EPDM (the materials HNBR and FPM are not recommended)

### 8.3.3. Clean of intermediate chamber

The double seal mixproof valve INNOVA D allows the CIP or SIP clean the intermediate chamber to avoid any type of pollution.

The clean the intermediate chamber with the valve closed, you should one leak detector for cleaning product entry or steam and should use the second one for drainage.



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## 8.4. DISASSEMBLY AND ASSEMBLY OF THE VALVE



Proceed with caution. Personal injury can occur.

Always disconnect the compressed air before starting to disassemble the valve.

Never disassemble the valve clamps directly without reading the instructions carefully, since the actuator contains a spring inside it with an applied load.

Valve and actuator assembly and disassembly should only be done by qualified persons.

The following tools are needed in order to disassembly and assembly the valve and the drives:

- 15 mm and 17 mm spanners to remove the shaft of the valve of DN25 size,
- two 17 mm spanners to remove the shaft of the valve of DN40 to DN100 size,
- 13 mm spanner for the clamps,
- appropriate tool (not piercing) to mount the seat seals,
- 30 mm socket wrench to remove the lantern.

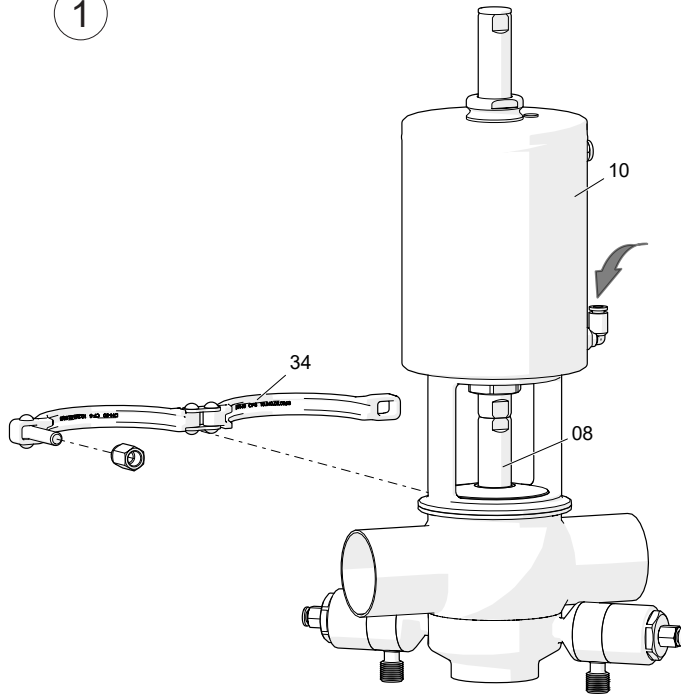
### 8.4.1. Disassembly

1. Apply compressed air to the actuator (10) so the valve shaft (08) passes to the open position.
2. Loose and separate the clamp (34).
3. Separate the valve body (01) from the actuator (10) - lantern (32) - shaft valve(08) assembly.
4. Disassemble the leak detectors from the valve body (01) following the instructions of chapter [8.6. Disassembly and assembly of leak detector](#).
5. Release the compressed air from the actuator (10).
6. Unscrew the valve shaft (08) from the actuator (10) shaft by two spanners.
7. Finish unscrewing the valve shaft (08) manually.
8. Remove the seat seals (05C,05E) following the instructions of chapter [8.5. Replacing the seat seal](#).
9. Remove the body cap (12), which has been housed in the lantern (21).
10. Remove the shaft seal (05), the guide bushing (17) and the O-ring (20B) from the body cap (12).
11. With a socket wrench, loose threaded guide from the actuator (10) to separate de lantern (21) from the actuator (10) and remove the pin (56).

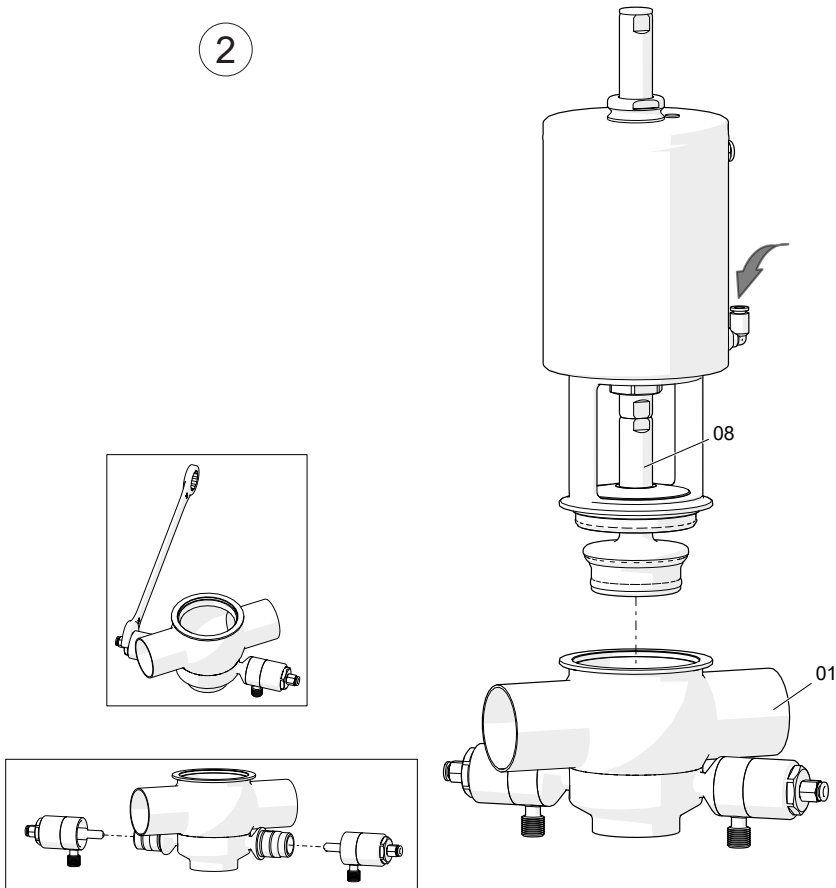
### 8.4.2. Assembly

1. Place the lantern (21) to the actuator (10) and fix its position with the pin (56).
2. Fix the lantern (21) to the actuator (10) with a socket wrench.
3. Place the guide bushing (17) on the body cap (12).
4. Place the shaft seal (05) and the O-ring (20B) on the body cap (12).
5. Place the body cap (12) in the lantern (21).
6. Mount the seat seals (05C,05E) on the valve shaft (08) following the instructions of chapter [8.5. Replacing the seat seal](#).
7. Thread the valve shaft (08) with the actuator (10) shaft by two spanners.
8. Mount the leak detectors to the valve body (01) following the instructions of chapter [8.6. Disassembly and assembly of leak detector](#).
9. Apply compressed air to the actuator (10).
10. Place the actuator (10) - lantern (21) - shaft (08) - body cap (12) assembly on the valve body (01) The body is steerable 360°. Place the body according to the needs of the user.
11. Fix the valve body (01) with the clamp (34).
12. Release de compressed air to the actuator (10).
13. Open and close the valve several times, applying compressed air to ensure the valve's assembly is correct and check that the shaft seal fits smoothly with the valve body.

1

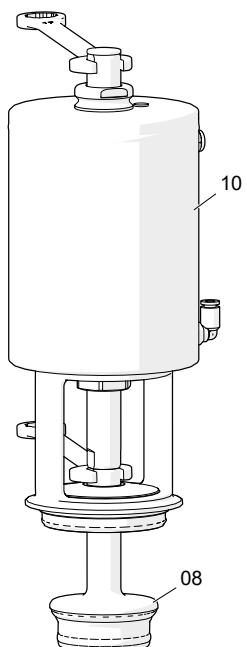


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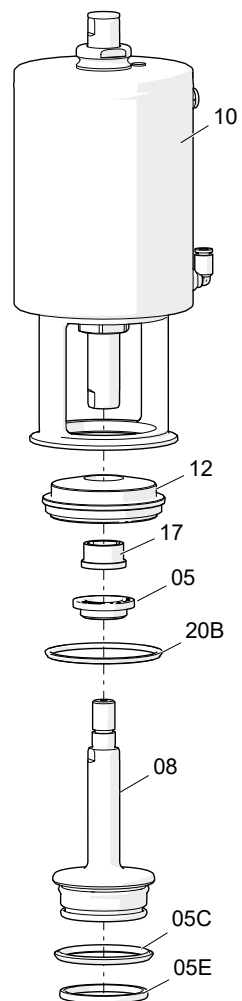


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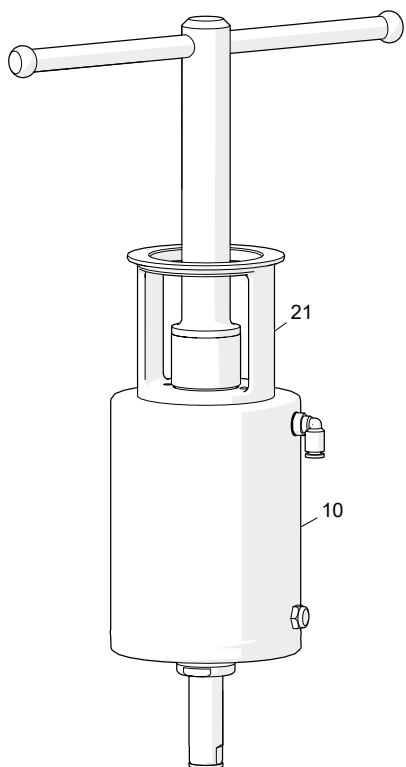
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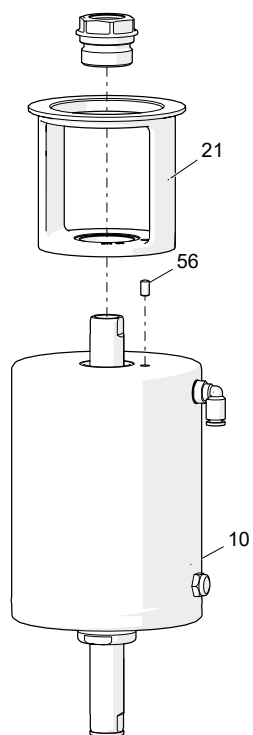
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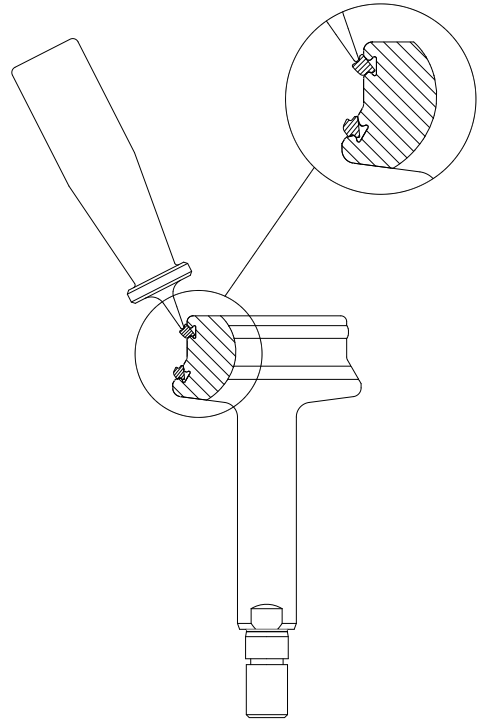
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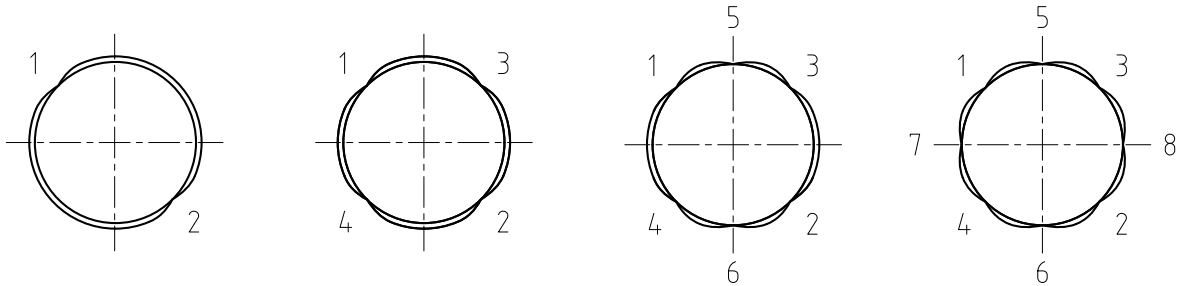
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### 8.5. REPLACING THE SEAT SEAL

1. Put the plug shaft in a vertical position –for example, with a bench clamp- so that the shaft is kept stable and no damage is caused to the mating surface of the conical seal. Do not press the shaft too much if using a bench clamp.
2. Remove the used seal using a screwdriver or a sharp hook-shaped tool. Make sure not to damage the mating surface of the seal.
3. Lubricate the new seat seal with soapy water if necessary to facilitate installation.
4. Insert the seal in the plug shaft seat accommodation so that its edges are inside the accommodation. Preferably, the seal should fit within the part of the section that has the greatest diameter, as shown in the figure.
5. Then, with the help of an appropriate tool (not piercing), press the edge of the seal that has not yet fit into the accommodation, as shown in the figure.
6. This operation should be done around the entire diameter, applying the tool in the sequence **1-2-3-4-5-6-7-8** as shown in the bottom figure. Always press on opposite sides. Once you get to the last step of this sequence, repeat the process until the seal is completely inside the accommodation.
7. Press the seal with your fingers to make sure it will be seated. Make sure there are no parts projecting due to poor positioning of the seal.



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## 8.6. DISASSEMBLY AND ASSEMBLY OF LEAK DETECTOR



Proceed with caution. Personal injury can occur.

Leak detector disassembly and assembly should only be done by qualified persons.

Do not disassemble the leak detectors until the pipes have been emptied. Bear in mind that the fluid in the pipe may be hazardous or extremely hot.

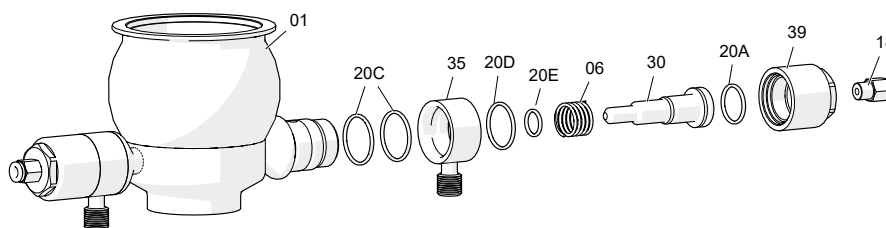
A 27 mm socket wrench is needed to disassemble and assemble the leak detector.

### 8.6.1. Disassembly of leak detector

1. Unscrew the cover (39) from the body (01).
2. Remove the adjustable ring (35) and the O-rings (20C,20D) from the body (01).
3. Remove the shaft piston (30).
4. Remove the O-rings (20A,20B) and the spring (06) from the piston shaft (30).

### 8.6.2. Assembly of leak detector

1. Place the spring (06) and the O-rings (20A,20B) on the piston shaft (30).
2. Place the O-rings (20C,20D) on the body (01).
3. Place the adjustable ring (35) on the body (01).
4. Screw the cover (20) on the body (01).



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## 8.7. DISASSEMBLY AND ASSEMBLY OF ADAPTER KIT OF THE CONTROL HEAD



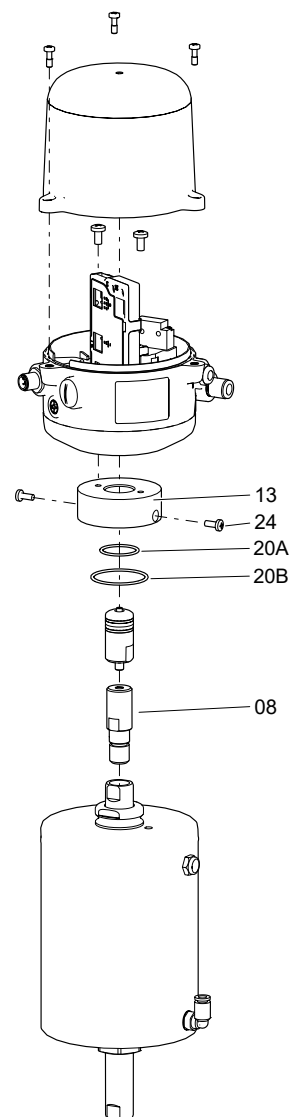
Check that the actuator is without pressure before starting the assembly or disassembly works.

### 8.7.1. Disassembly

1. Disconnect the compressed air supply.
2. Loose the screws (24) from the adapter base (13) and separate the control head from the actuator.
3. Remove the cover of the control head.
4. Loose the screws that join the control head to the adapter base (13).
5. Separate the adapter base (13) from the control head.
6. Remove the O-rings (20A,20B) from the adapter base (13).
7. Unscrew the magnet from the adapter shaft (08).
8. Unscrew the adapter shaft (08) from the actuator shaft.

### 8.7.2. Assembly

1. Place the O-rings (20A,20B) on the adapter base (13).
2. Remove the plugs from the actuator.
3. Screw the adapter shaft (08) on the actuator shaft.
4. Screw the plug on the adapter shaft (08).
5. Place the adapter base (13) on the actuator and fix it with the screws (24).
6. Remove the cover of the control head.
7. Place the control head and fix it to the adapter base (13).
8. Place the control head.



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# 9. Technical Specifications

## 9.1. VALVE

Maximum working pressure	1000 kPa (10 bar)
Minimum working pressure	vacuum
Maximum working temperature	121°C (250°F) EPDM seals (for higher temperatures other grades of seals will be used)

## 9.2. ACTUATOR

Compressed air pressure	600 - 800 kPa (6 - 8 bar)
Compressed air quality	per ISO 8573-1:2010: <ul style="list-style-type: none"> <li>- <u>Solid particulate content</u>: quality class 3, max. particle dimension = 5 μ, max particle density = 5 mg/m<sup>3</sup>.</li> <li>- <u>Water content</u>: quality class 4, max. dew point = 2°C. If the valve is used at a high altitude or under low ambient temperature conditions, the dew point must be adjusted accordingly.</li> <li>- <u>Oil content</u>: quality class 5, preferentially oil free, max. 25 mg oil per 1 m<sup>3</sup> air.</li> </ul>

Compressed air fitting	G 1/8
Compressed air consumption (litres N/cycle of P <sub>rel</sub> = 6 bar)	

T1	T2	T3	T4
1,1	2,5	3,7	5,6

## 9.3. LEAK DETECTOR'S VALVE

Compressed air pressure	600 - 800 kPa (6 - 8 bar)
Outlet connection	G 1/8, steerable 360°

## 9.4. MATERIALS

Parts in contact with the product	1.4404 (AISI 316L)
Other steel parts	1.4301 (AISI 304)
Seals in contact with the product	EPDM (standard) - FPM - HNBR
Internal surface finish	bright polish Ra ≤ 0,8 μm
External surface finish	matt

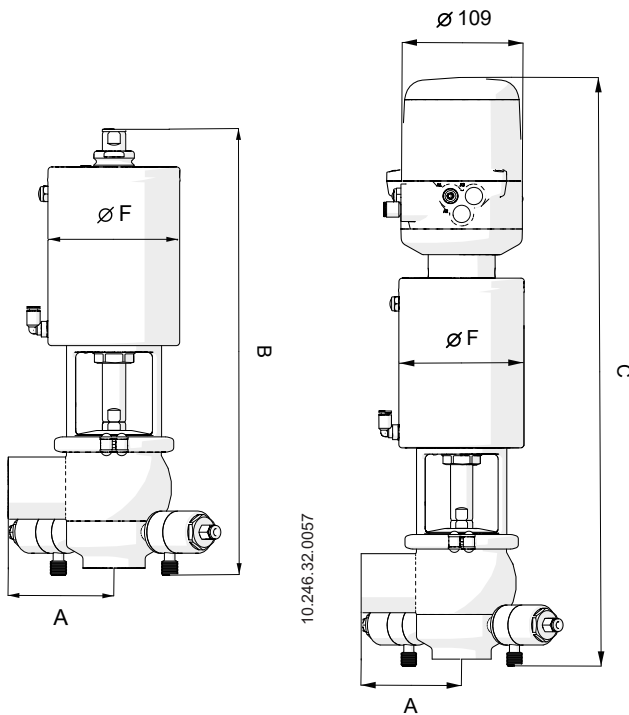
## 9.5. SIZES AVAILABLES

DIN EN 10357 serie A (formerly DIN 11850 series 2)	DN 25 - DN 100
ASTM A269/270 (corresponds to OD tube)	OD 1" - OD 4"
Connections	weld, male, clamp

### 9.6. WEIGHTS

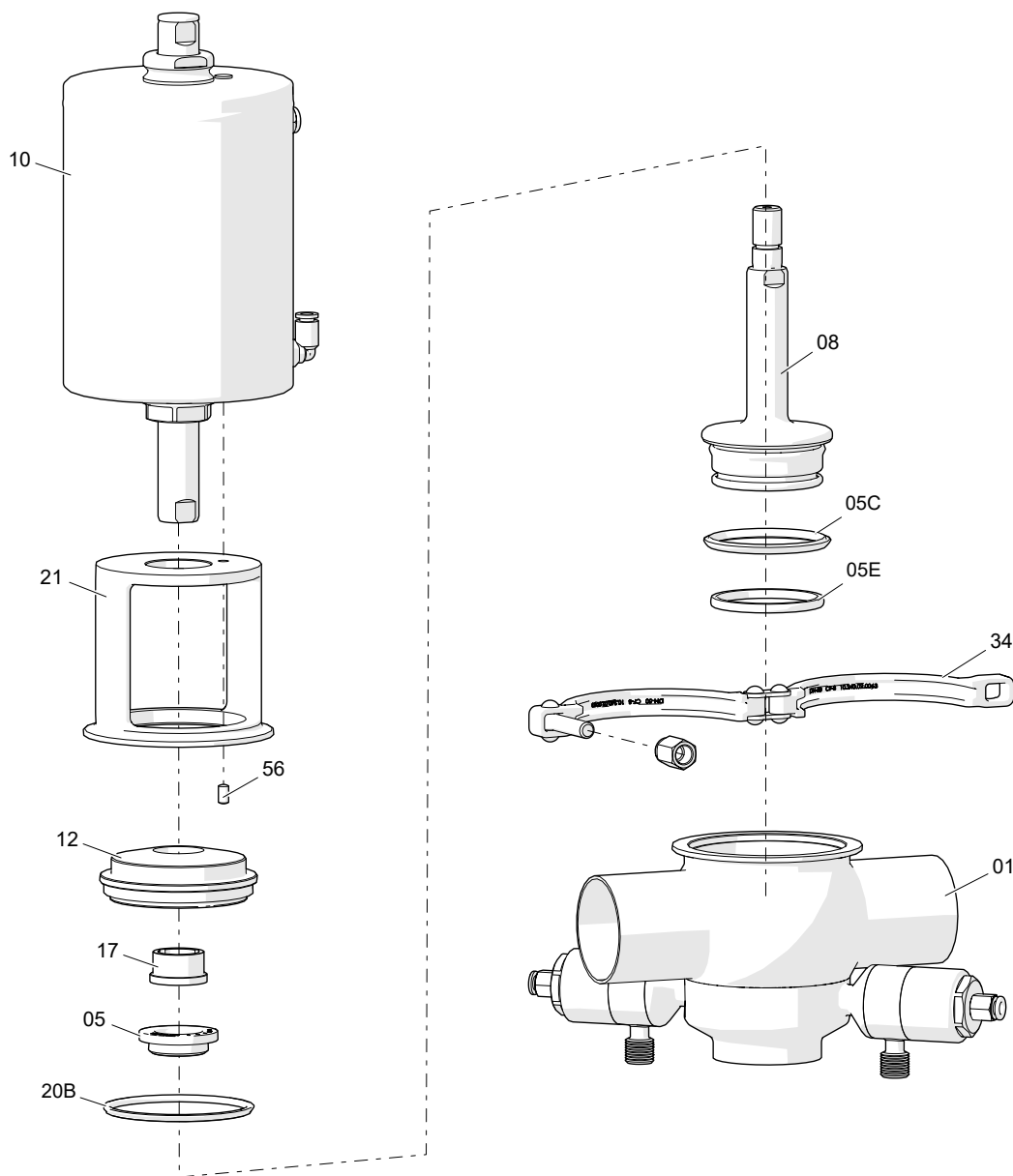
DN	Weight [kg]			
	T1	T2	T3	T4
25	5,0	-	-	-
40	6,0	-	-	-
DIN	50	-	9,3	-
	65	-	-	14,2
	80	-	-	15,8
	100	-	-	23,3
OD	1	5,0	-	-
	1½"	6,0	-	-
	2"	-	9,2	-
	2½"	-	-	14,3
	3"	-	-	15,7
	4"	-	-	23,3

### 9.7. DIMENSIONS



DN	Dimensions [mm]			
	A	B	C	ØF
25	50	335	435	90
40	85	350	450	90
DIN	50	90	415	115
	65	110	440	140
	80	125	455	140
	100	150	485	170
OD	1"	50	330	90
	1½"	85	350	90
	2"	90	415	115
	2½"	110	435	140
	3"	125	445	140
	4"	150	485	170

### 9.8. EXPLODED DRAWING AND PARTS LIST OF THE VALVE

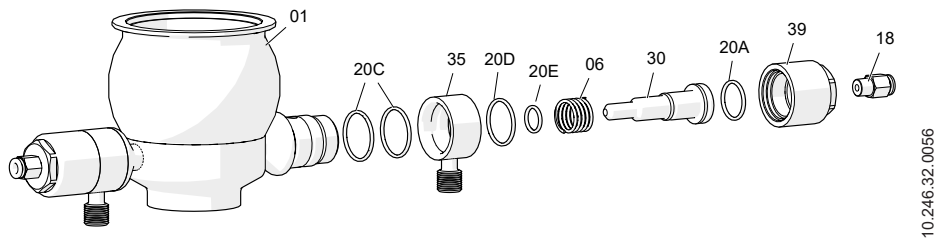


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Position	Description	Quantity	Material
01	body	1	1.4404 (AISI 316L)
05	shaft seal <sup>1</sup>	1	EPDM / FPM / HNBR
05C	conical seat seal <sup>1</sup>	1	EPDM / FPM / HNBR
05E	radial seat seal <sup>1</sup>	1	EPDM / FPM / HNBR
08	shaft	1	1.4404 (AISI 316L)
10	actuator	1	1.4307 (AISI 304L)
12	top body cap	1	1.4404 (AISI 316L)
17	guide bushing <sup>1</sup>	1	PTFE
20B	O-ring <sup>1</sup>	1	EPDM / FPM / HNBR
21	lantern	1	1.4301 (AISI 304)
34	clamp	1	1.4301 (AISI 304)
56	pin	1	A2

1) recommended spare parts

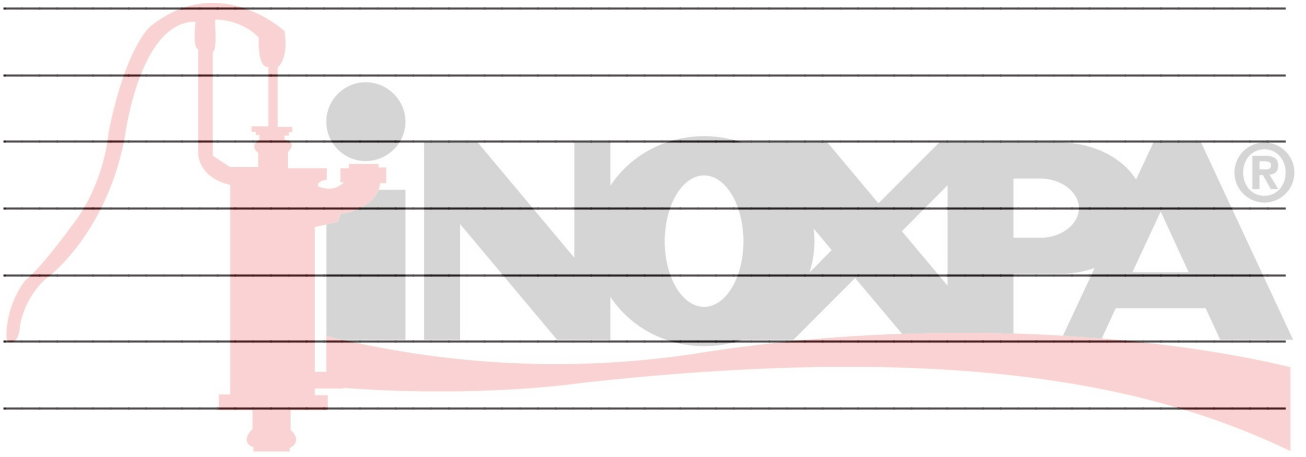
### 9.9. EXPLODED DRAWING AND PARTS LIST OF THE LEAK DETECTOR



Position	Description	Quantity	Material
06	spring	1	1.4310 (AISI 302)
20A	O-ring <sup>1</sup>	1	HNBR
20C	O-ring <sup>1</sup>	2	EPDM
20D	O-ring <sup>1</sup>	1	HNBR
20E	O-ring <sup>1</sup>	1	EPDM
30	shaft	1	PTFE
35	adjustable ring	1	1.4404 (AISI 316L)
39	cover	1	1.4404 (AISI 316L)

1) recommended spare parts

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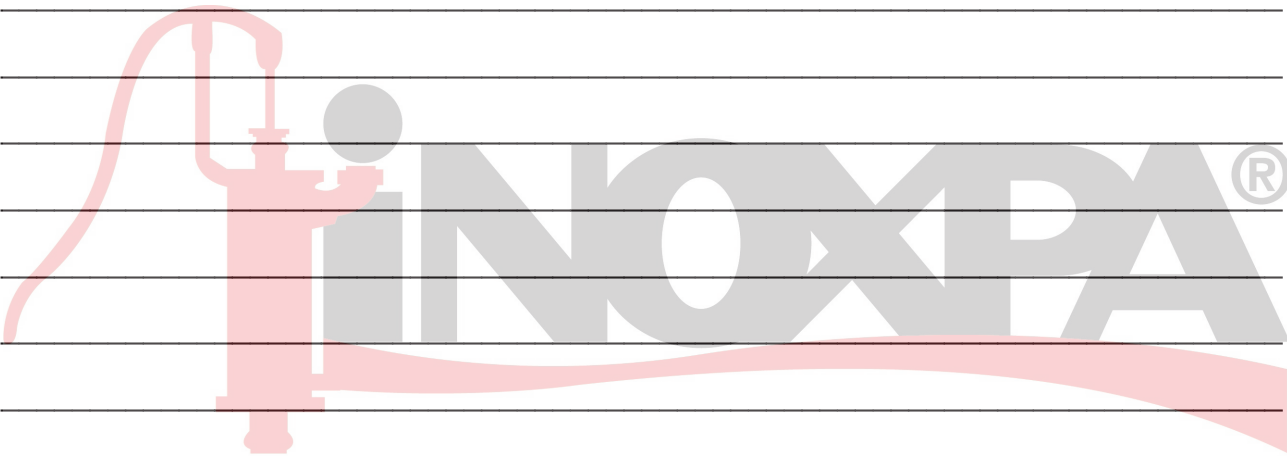
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