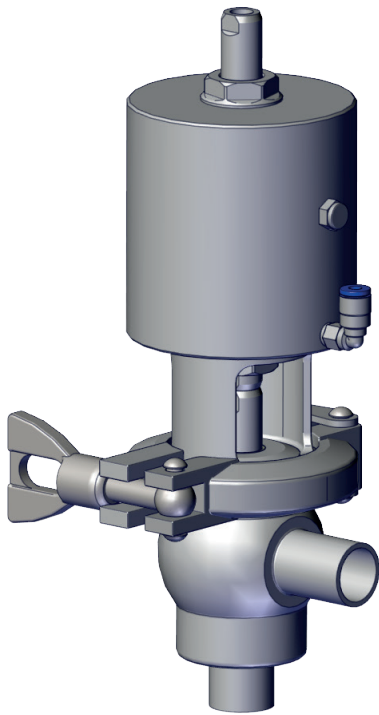


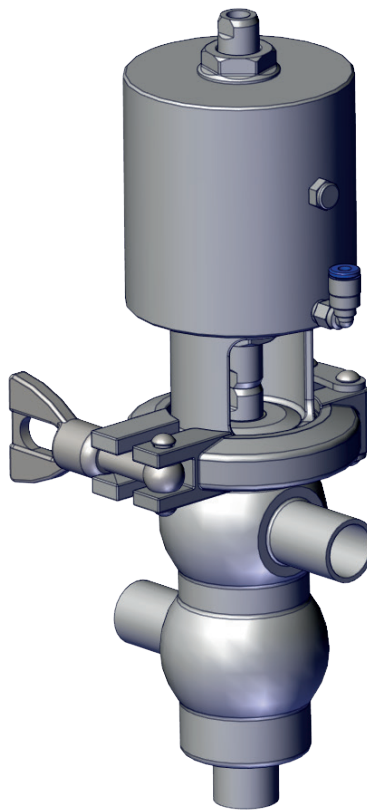
INSTALLATION, SERVICE AND MAINTENANCE INSTRUCTIONS

## SINGLE SEAT VALVE

# INNOVA Mini N / K



10.260.32.0002



10.260.32.0003



Original Instructions

10.260.30.01EN

(A) 2022/09

# EC Declaration of Conformity



## **INOXPA S.A.U.**

Telers, 60  
17820 - Banyoles (Spain)

hereby declare under our sole responsibility that the

Machine:	<b>SINGLE SEAT VALVE</b>
Model:	<b>INNOVA Mini</b>
Type:	<b>N / K</b>
Size:	<b>DN 10 - DN 15 - DN 20 / OD 1/2" - OD 3/4"</b>
Serial number:	<b>IXXXXXXXXXX to IXXXXXXXXXX XXXXXXXXXXIINXXX to XXXXXXXXXXXIINXXX</b>

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.

A handwritten signature in black ink, appearing to read "DRB", is placed above the printed name of the signatory.

David Reyer Brunet  
Technical Office Manager  
2nd June 2022



Document: 10.260.30.02EN

Revision: (0) 2022/06

<sup>1</sup>Designed and manufactured in accordance with the sound engineering practice

# Declaration of Conformity



**INOXPA S.A.U.**

Telers, 60  
17820 - Banyoles (Spain)

hereby declare under our sole responsibility that the

Machine:	<b>SINGLE SEAT VALVE</b>
Model:	<b>INNOVA Mini</b>
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Serial number:	<b>IXXXXXXXXXX to IXXXXXXXXXX XXXXXXXXXXIINXXX to XXXXXXXXXXXIINXXX</b>

fulfils 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.

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David Reyer Brunet  
Technical Office Manager  
2nd June 2022



Document: 10.260.30.03EN  
Revision: (0) 2022/06

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## 2. Generalities

### 2.1. INSTRUCTIONS MANUAL

This manual contains information about the reception, installation, operation, assembly and maintenance of INNOVA Mini N and INNOVA Mini K valve.

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.

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 Mini N single seat valve is a shut-off valve that is used to open or close sections of a pipe. The INNOVA Mini K single seat valve is a divert valve to divert the product with a converging flow.

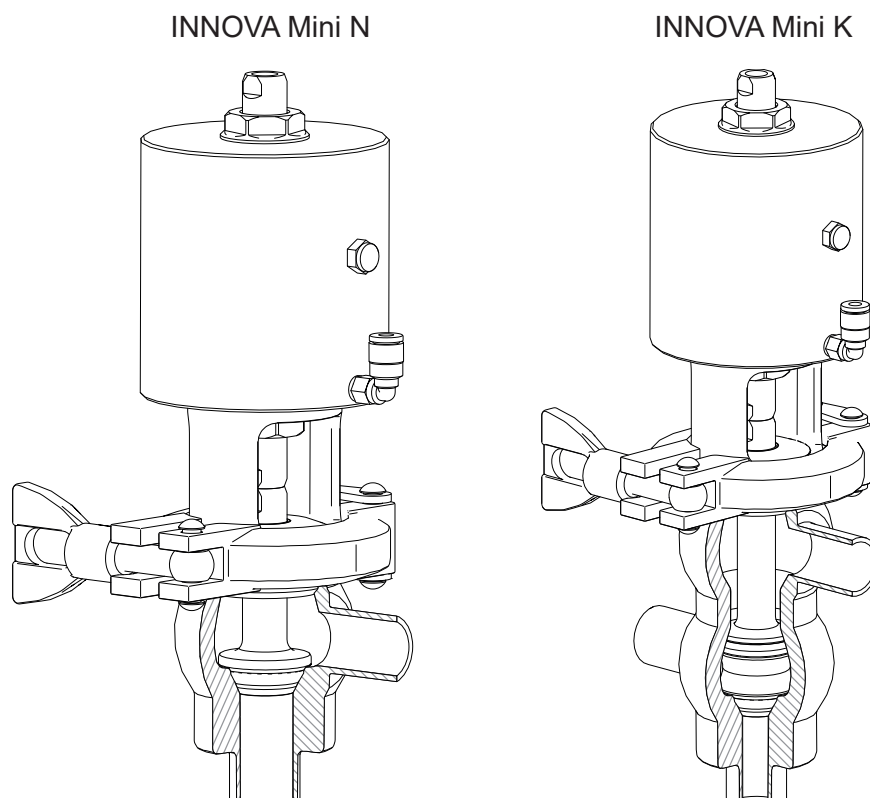
Because these two types of valve are single seat valve, they only have one union that separates the two lines of the pipe. This means that they are not suitable for separating incompatible products, since if there is a failure in the union it may not be detected and the products could mix.

### 4.2. APPLICATION

The INNOVA Mini N and INNOVA Mini K single seat valve are a sanitary and flexible design for a wide range of applications in the food, pharmaceutical, chemical and beverage industries.

The INNOVA Mini N valve is usually used for emptying, drainage or as a shut-off valve on a bypass line.

The INNOVA Mini K valve is often used to supply CIP and on return lines.



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# 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 de fabrication number on all documents to refer to the valve.

 	
INOXPA S.A.U. C. TELERS, 60 - 17820 BANYOLES GIRONA (SPAIN) . www.inoxpa.com	
 II 2G Ex h IIB T6...T3 Gb II 2D Ex h IIIB T85 °C...T200 °C Db	
<b>Type</b>	<b>Size</b>
<b>Serial</b>	<b>Year</b>
<b>Air</b>	

10.260.32.0018



WA	N	L	0	-	0	06	52	015	20	0	B
											<b>Port lower orientation</b>
											A 0°
											B 90°
											C 180°
											D 270°
											<b>Options</b>
											0 ID Ra < 0,8
											1 ID Ra < 0,5
											<b>Actuator</b>
											10 T0 S/E NC
											20 T0 D/E
											30 T0 S/E NO
											<b>Size</b>
											010 DN 10
											015 DN 15, OD ½"
											020 DN 20, OD ¾"
											<b>Seals</b>
											43 HNBR
											52 EPDM
											78 FPM
											<b>Material</b>
											06 1.4404 (AISI 316L)
											<b>Connection</b>
											0 Welded
											<b>Standard pipe</b>
											0 DIN
											1 OD
											<b>Bodies configuration</b>
											L,T INNOVA N
											H,E,F,G INNOVA K
											<b>Type</b>
											N shut-off valve (reverse acting)
											K routing (converging flow)
											<b>Product family</b>
											WA INNOVA valve

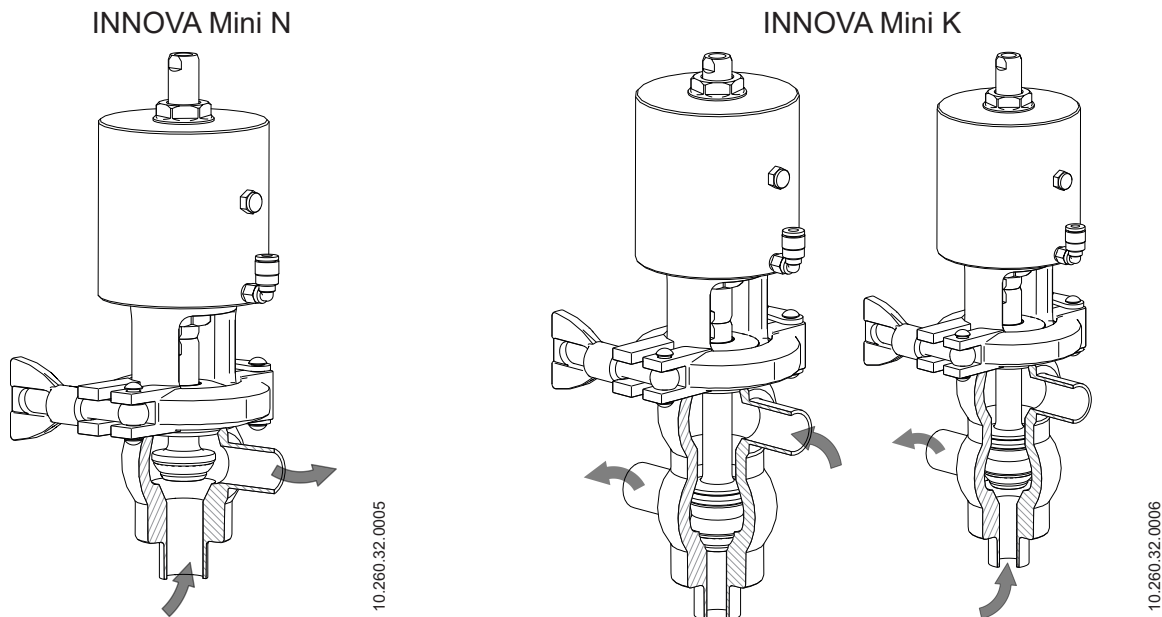
## 5.4. LOCATION

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.

## 5.6. DIRECTION OF FLOW

The following image indicates the recommended direction for product flow, as well as the direction of closing, depending on the type of valve. Following these indications will prevent water hammer and its consequences to the extent possible, which can occur when valves close.

The recommended direction will always be contrary to the movement of valve closing, that is, when the valve is closing, the valve will always work against the pressure of the fluid.



## 5.5. 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.

The connections must be EHEDG-approved as described in EHEDG Position Paper (see [www.ehedg.org/guidelines](http://www.ehedg.org/guidelines)).

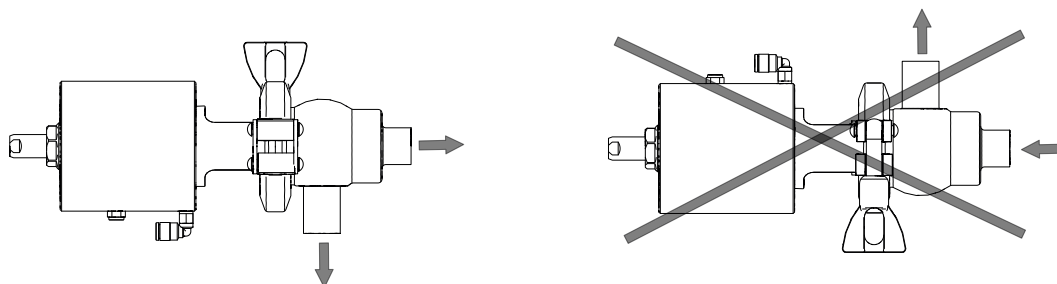
In case of joining the valve to the pipe by fittings do not forget the seals and tighten the unions properly.

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,
- thermal dilation that the pipe may undergo when hot fluids are circulating,
- the weight that the pipe can support,
- excessive welding current.

Due to design of the bodies, the valve is completely drainable in vertical position. In case of placing the valve in other positions, horizontal or inclined, to assure the self-draining, install the valve with at least the port that occupies the lowest position facing downwards.



10.260.32.0007

### 5.7. CHECKING AND REVIEW

Perform the following checks before using the valve:

- check that the clamps and nuts are tightened,
- if the valve is fitted with a pneumatic drive, apply the compressed air several times checking to make sure that the valve carries out the opening and closing action without difficulty.

### 5.8. WELDING



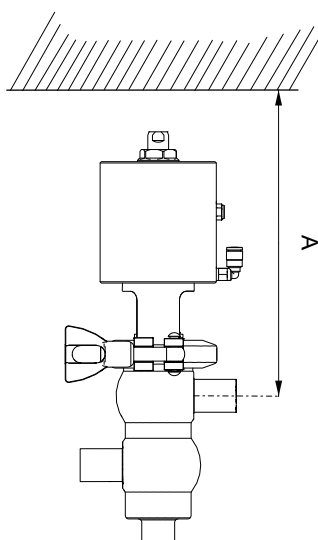
Welding work should only be done by qualified persons who are trained and equipped with the necessary equipment to perform this kind of work.

All welded joint shall have full penetration, be free of pits, folds, crevices, cracks and misalignments; and may have an as-welded interior surface finish as per AWS/ANSI D 18.1. The weld discoloration in the as-welded condition shall be either weld 1, 2 or 3 as shown in AWS/ANSI D 18.2 or weld No 1,2,3,4, or 5 as shown in EHEDG Guideline 35.

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, dimension A. This will allow for disassembly of the valve, doing the subsequent reviews and changing the necessary valve pieces like seals, bushings, etc.

DN	A (mm)
10	290
15	285
20	285
1/2"	290
3/4"	285



10.260.32.0008

### 5.9. VALVE CONFIGURATION WITH ACTUATOR

The standard configuration of the valves is NC (normally closed). However, it is possible to convert the valve into NO (normally open) by turning the valve actuator following the procedure described in chapter 8.6. [Actuator configuration](#).

The valves can also be configured as DE valves (air-air).



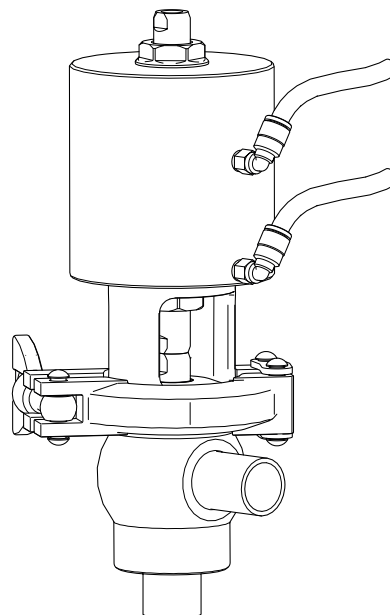
Never disassemble the valve clamps directly without reading the instructions carefully since the actuators contain a spring inside it with an applied load. Valve assembly and disassembly should only be done by qualified persons.

### 5.10. CONNECTING THE AIR TO 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.



10.260.32.0035

## 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 is 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.

### 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)	
The valve plug is sticking	
CAUSAS PROBABLES	SOLUCIONES
<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>	Increase the compressed air pressure.
<ul style="list-style-type: none"> <li>Normal wear of seals</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. Reduce the working temperature.
<ul style="list-style-type: none"> <li>Product residue has been deposited on the valve seat and/or plug</li> </ul>	Clean frequently.
<ul style="list-style-type: none"> <li>Excess product pressure</li> </ul>	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>	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>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

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 in the open air 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) a 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 al 33% + 100 l H<sub>2</sub>O = cleaning solution

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

0,7 l HNO<sub>3</sub> al 53% + 100 l H<sub>2</sub>O = cleaning solution

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 pigging.

#### 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)

## 8.4. DISASSEMBLY AND ASSEMBLY 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:

- two 10 mm crescent spanners
- appropriate tool (not piercing) to mount the seat seals.

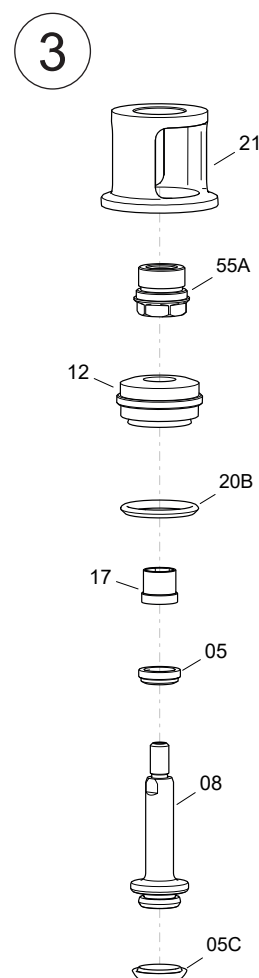
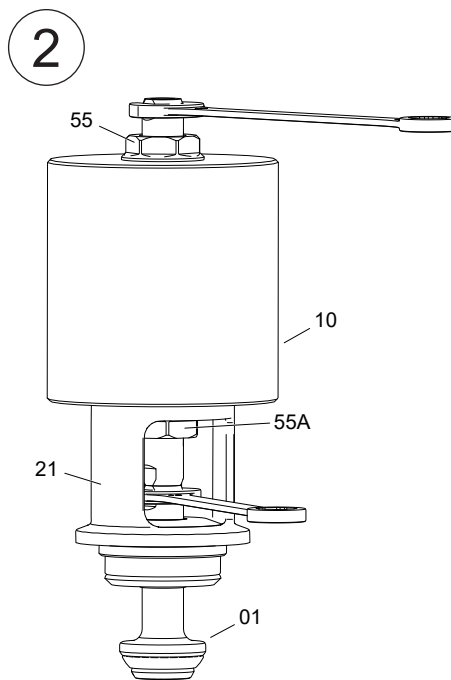
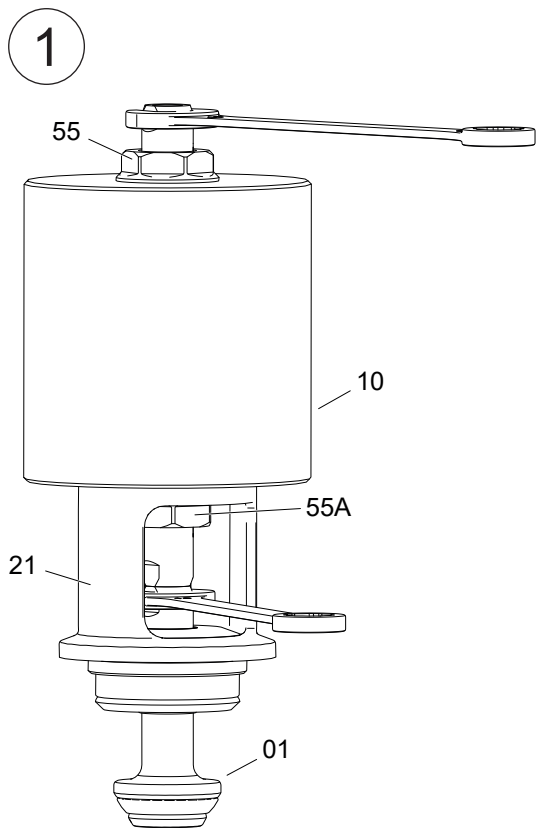
### 8.4.1. Disassembly

1. At the NC valves, apply compressed air to the actuator (10) to the plug shaft (08) passes to the open position.
2. Loosen and separate the clamp (34).
3. Separate the valve body (01) from the assembled formed by the actuator (10) - lantern (21) - plug shaft (08).
4. At the NC valves, release the compressed air from the actuator (10).
5. Loosen the lower threaded guide (55A) from the actuator (10) thus will allow the lantern to turn freely.
6. Unscrew the plug shaft (08) from the actuator (10) shaft with two 10 mm crescent spanners. One of the crescent spanners will fix the actuator shaft for the upper part of the actuator and the other one shall turn the plug shaft (08) to unscrew it.
7. Remove the body cover (12) from the shaft.
8. Separate the upper guide bushing (17), the shaft seal (05) and the O-ring (20B) from the body cover (12).
9. Unscrew and remove the lower threaded guide (55A) from the actuator (10).
10. Separate the lantern (21).
11. Remove the conical seat seal (05C) from the plug shaft (08) following the instructions in chapter 8.5. [Replacing the seat seal](#).
12. At the INNOVA Mini K valves, remove the radial seat seal (05D) following the instructions in chapter 8.5. [Replacing the seat seal](#).

### 8.4.2. Assembly

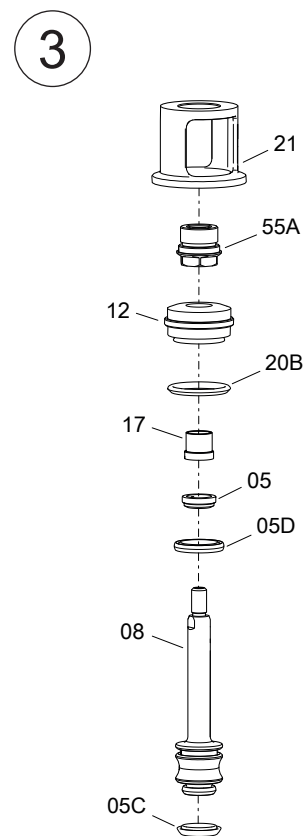
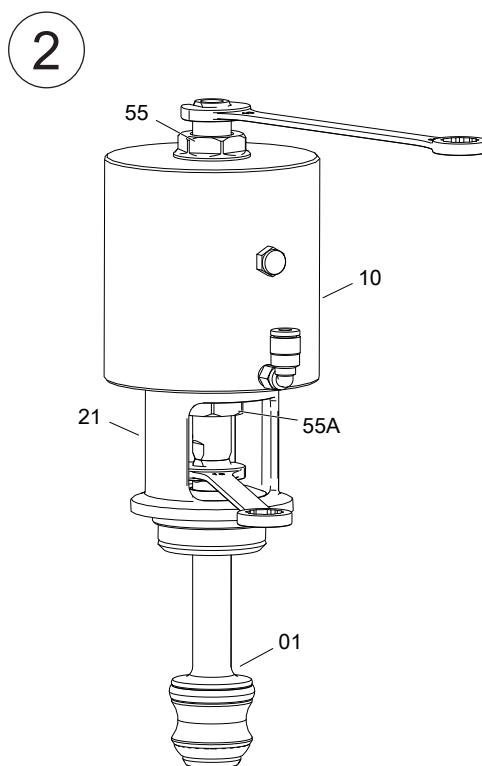
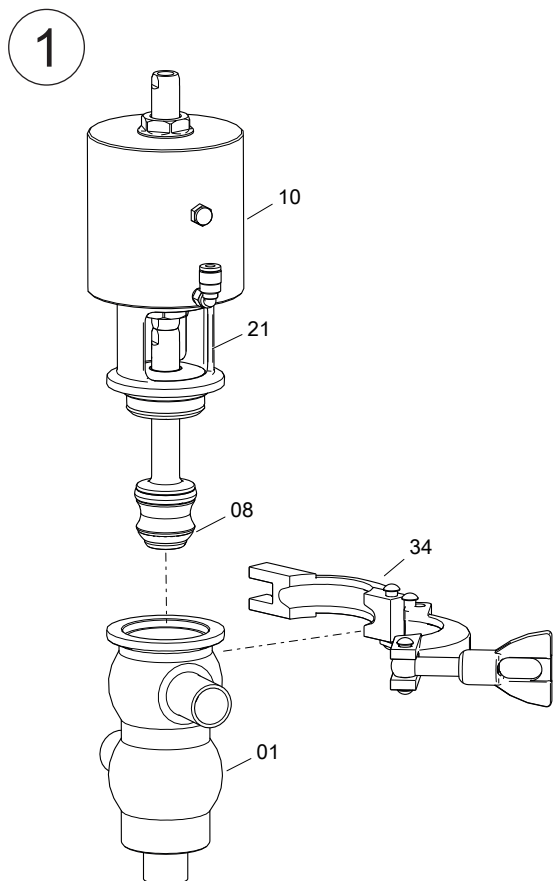
1. Lubricate the seals with soapy water or suitable grease to facilitate their assembly.
2. Mount the conical seat seal (05C) to the plug shaft (08) following the instructions in chapter 8.5. [Replacing the seat seal](#).
3. At the INNOVA Mini K valves, assemble the radial seat seal (05D) to the plug shaft (08) following the instructions in chapter 8.5. [Replacing the seat seal](#).
4. Mount the seat seal (05) and the O-ring (20B) to the body cover (12).
5. Place the guide bushing (17) on the body cover (12).
6. Place the body cover (12) on the plug shaft (08).
7. Place the lantern (21) on the actuator (10) and fix it with the lower threaded guide (55A) of the actuator.
8. Thread the plug shaft (08) with the actuator shaft (10).
9. At the NC valves, apply compressed air to the actuator (10) to the plug shaft (08) passes to the open position.
10. Mount the actuator (10) - lantern (21) - plug shaft (08) assembly on the valve body (01) and fix it with the clamp (34). The body is steerable 360°, place it as the needs of the user.
11. At the NC valves, release the compressed air from the actuator (10).
12. Open and close the valve several times applying compressed air to the actuator to make sure it operates correctly and the shaft seal fits smoothly with the valve body.

INNOVA Mini N



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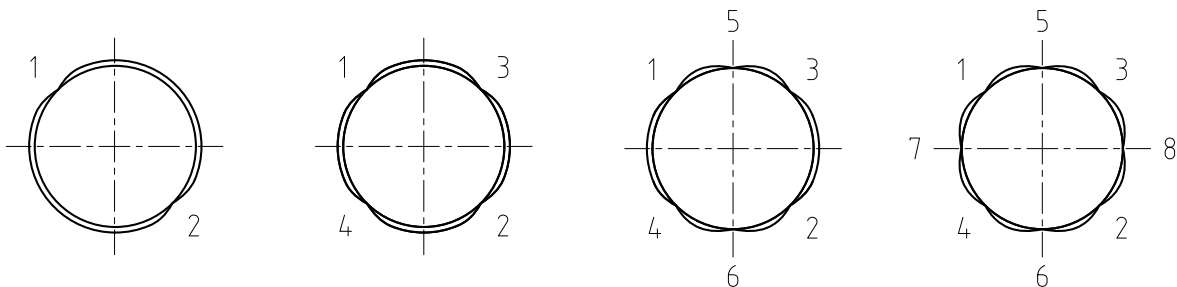
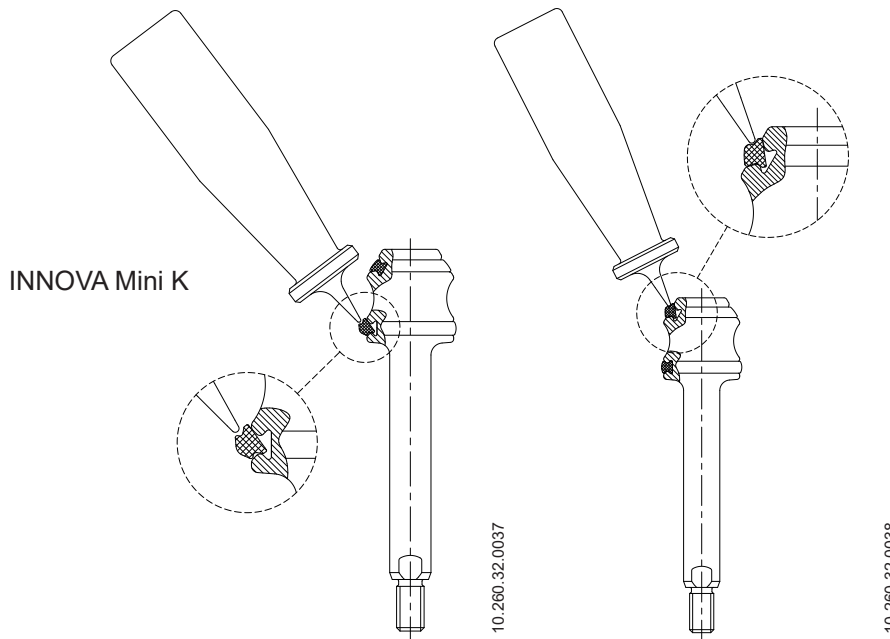
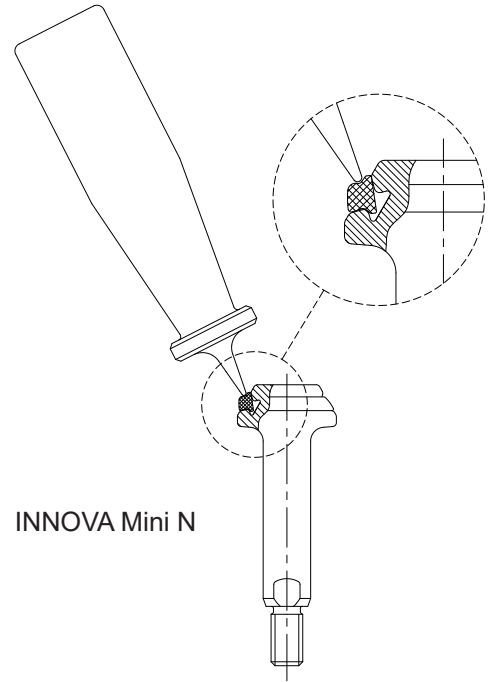
INNOVA Mini K



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### 8.5. REPLACING THE SEAT SEAL

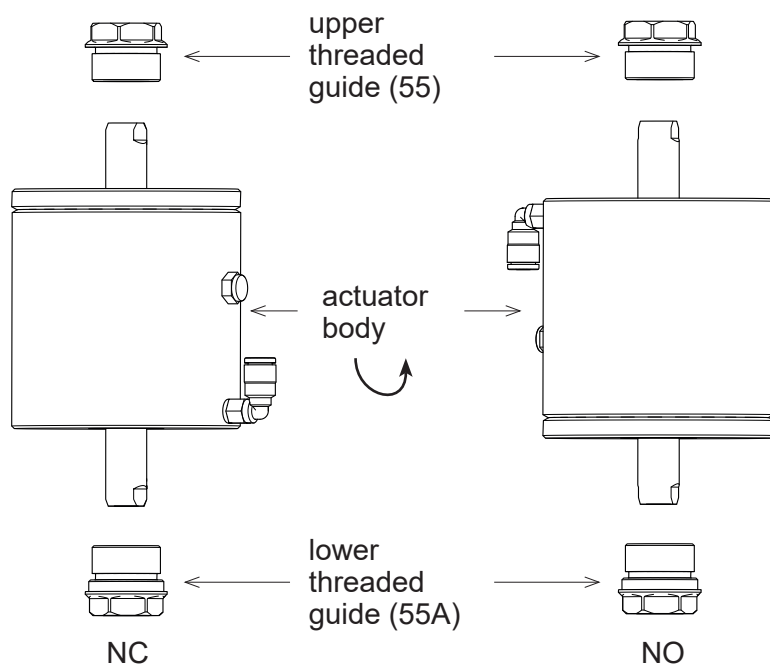
1. Put the plug shaft in a vertical position –for example, with a bench clamp- so that the shaft is kept stable and no damage is caused to the mating surface of the conical seal. Do not press the shaft too much if using a bench clamp.
2. Remove the used seal using a screw driver or a sharp hook-shaped 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.
7. Press the seal with your fingers to make sure it is well seated. Make sure there are no parts projecting due to the poor positioning of the seal.



## 8.6. ACTUATOR CONFIGURATION

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

To convert the valve to NO (normally open), unscrew the lower (55A) and upper (55) threaded guide, turn 180° the central part of the actuator and screw the guides again in their original positions.



10.260.32.0013

# 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 microns / 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 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 1m<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)	

	DN	SE (air-spring)	DE (air-air)
DIN	10	0,2	1,1
	15	0,2	1,1
	20	0,2	1,1
OD	1/2"	0,2	1,1
	3/4"	0,2	1,1

## 9.3. 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, FPM, HNBR
Internal surface finish	bright polish Ra ≤ 0,8 µm
External surface finish	matt

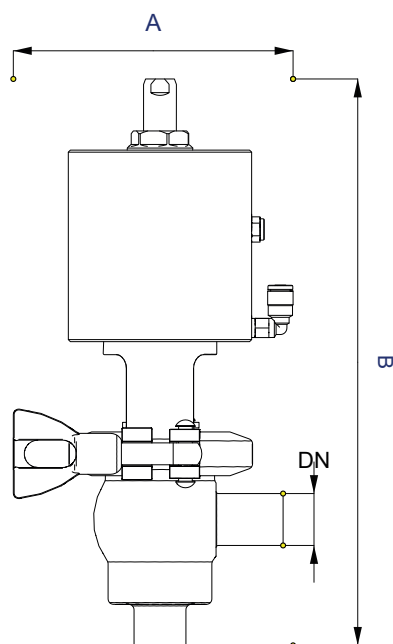
## 9.4. SIZES AVAILABLE

DIN EN 10357 serie A (formerly DIN 11850 series 2)	DN 10 - DN 15 - DN 20
ASTM A269/270 (correspond to tubo OD)	OD 1/2" - OD 3/4"
Connections	Weld

### 9.5. WEIGHTS of the INNOVA Mini N and INNOVA Mini K VALVE

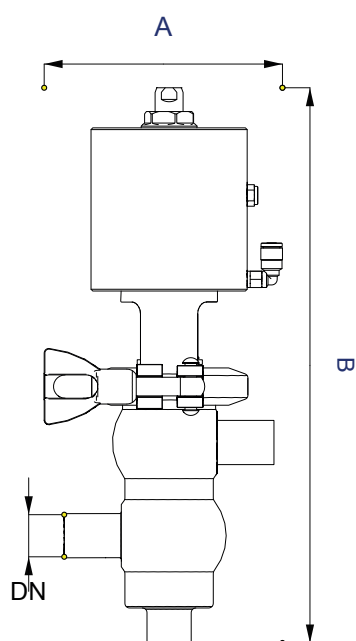
	DN	Weight (kg)	
		INNOVA Mini N	INNOVA Mini K
DIN	10	2,0	2,3
	15	2,0	2,4
	20	2,0	2,4
OD	1/2"	2,0	2,3
	3/4"	2,0	2,4

### 9.6. DIMENSIONS of the INNOVA Mini N and INNOVA Mini K VALVE



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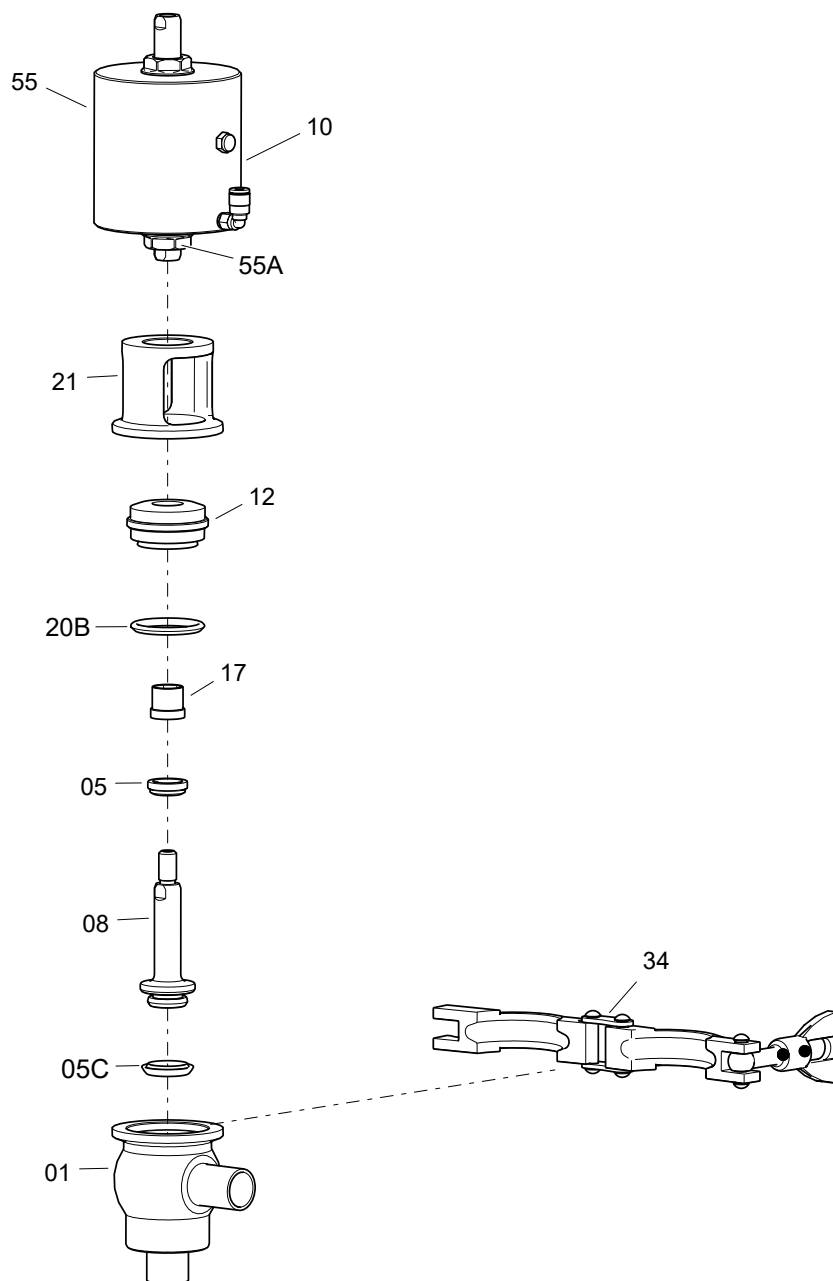
	DN	Dimensions (mm)	
		A	B
DIN	10	120	207
	15	120	207
	20	120	207
OD	1/2"	120	207
	3/4"	120	207



10.260.32.0015

	DN	Dimensions (mm)	
		A	B
DIN	10	120	247
	15	120	247
	20	120	247
OD	1/2"	120	247
	3/4"	120	247

### 9.7. EXPLODED DRAWING and PARTS LIST of the INNOVA Mini N VALVE



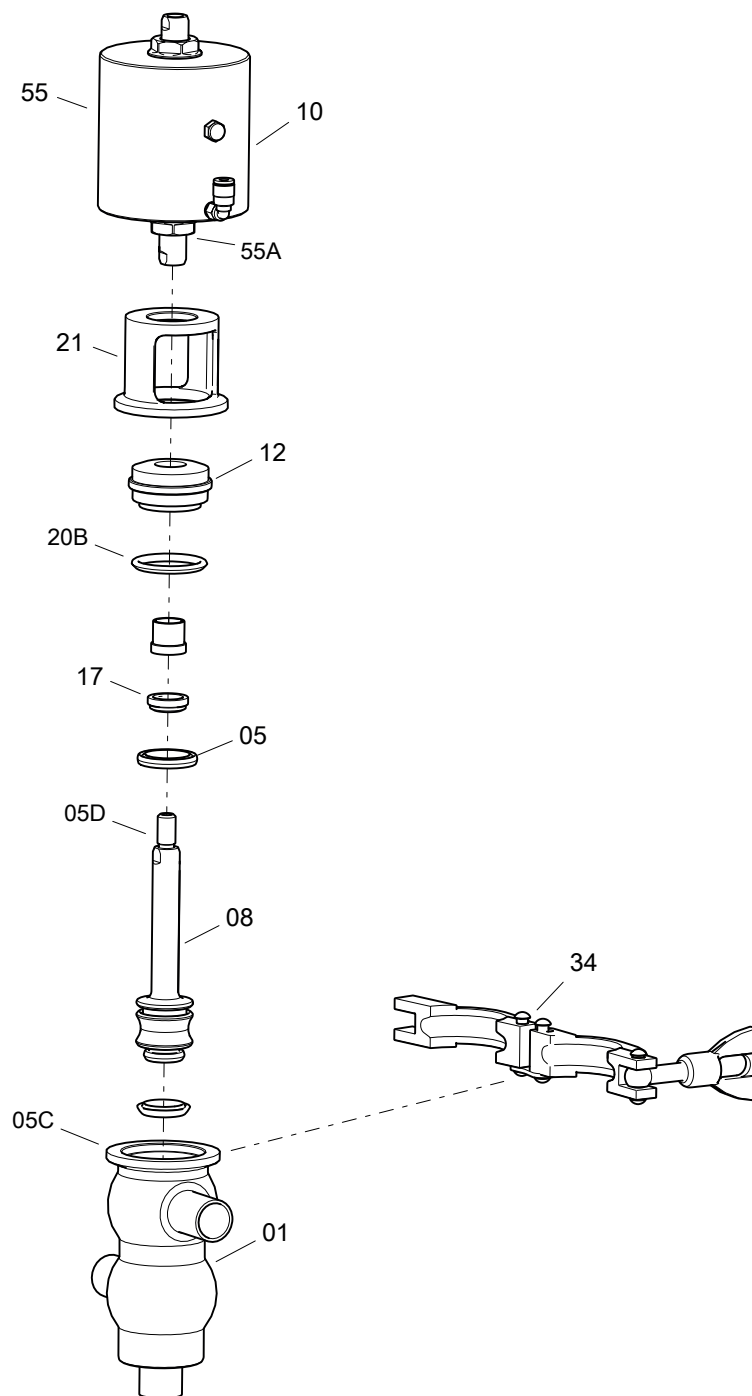
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Position	Description	Quantity	Material
01	body	1	1.4404 (AISI 316L)
05	shaft seal <sup>1</sup>	1	EPDM
05C	conical seat seal <sup>1</sup>	1	EPDM / FPM / HNBR
08	plug shaft	1	1.4404 (AISI 316L)
10	actuator	1	1.4307 (AISI 304L)
12	body cover	1	1.4404 (AISI 316L)
17	upper guide bushing	1	PTFE
20B	O-ring <sup>1</sup>	1	EPDM / FPM / HNBR
21	lantern	1	1.4307 (AISI 304L)
34	clamp	1	1.4301 (AISI 304)
55	upper threaded guide	1	PTFE
55A	lower threaded guide	1	PTFE

1) recommended spare parts



9.8. EXPLODED DRAWING and PARTS LIST of the INNOVA Mini K VALVE



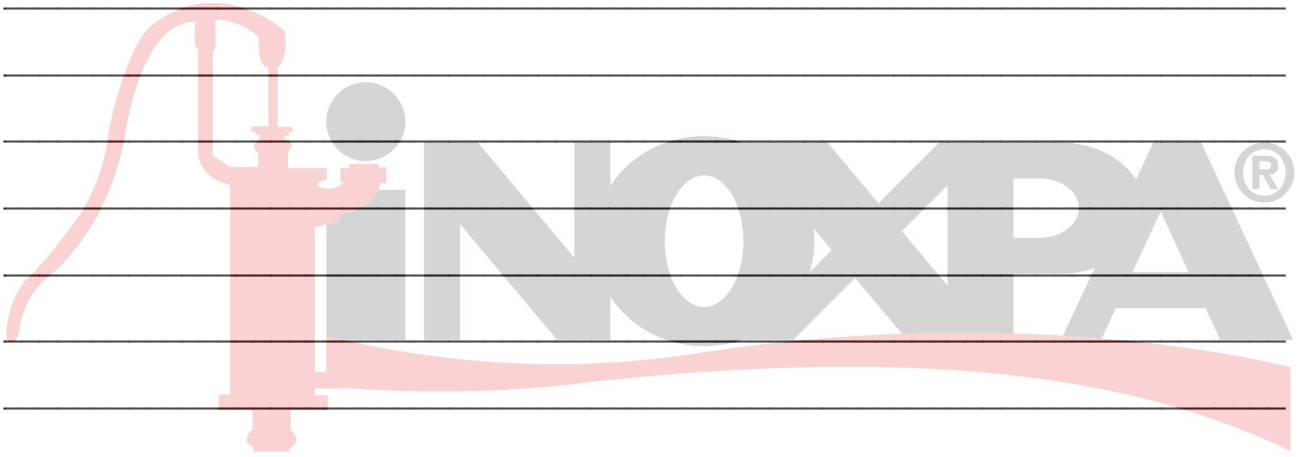
10.260.32.0017

Position	Description	Quantity	Material
01	body	1	1.4404 (AISI 316L)
05	shaft seal <sup>1</sup>	1	EPDM
05C	conical seat seal <sup>1</sup>	1	EPDM / FPM / HNBR
05D	radial seat seal <sup>1</sup>	1	EPDM / FPM / HNBR
08	plug shaft	1	1.4404 (AISI 316L)
10	actuator	1	1.4307 (AISI 304L)
12	body cover	1	1.4404 (AISI 316L)
17	upper guide bushing	1	PTFE
20B	O-ring <sup>1</sup>	1	EPDM / FPM / HNBR

1) recommended spare parts

Position	Description	Quantity	Material
21	lantern	1	1.4307 (AISI 304L)
34	clamp	1	1.4301 (AISI 304)
55	upper threaded guide	1	PTFE
55A	lower threaded guide	1	PTFE

NOTES



**How to contact INOXPA S.A.U.:**

Contact details for all countries are continually updated on our website.

Please visit [www.inoxpa.com](http://www.inoxpa.com) to access the information.



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