



NovAseptic[®] ATEX Valve


User Guide

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Labeling

The label data includes all the ATEX NovAseptic® valves, but is only located on the pneumatic actuator. Below is an example of the label and its descriptions.

 II 1 G D
 Ex h IIB T5... T3 (*) Ga
 Ex h IIIC T95°C... T200°C (*) Da
 LCIE 19 ATEX 3018 X
 $0^{\circ}\text{C} \leq T_{\text{amb}} \leq +70^{\circ}\text{C}$

Product Label Key

Symbol	Description
	Specific marking of explosion protection
II	Symbol of the equipment-group. The equipment has to be on SURFACE industries (as per defined by the 2014/34/EU directive)
1	Category 1: The equipment can be used in explosion zone 0 or ATEX zone at lower risk (as per defined by the 1999/92/CE)
GD	G: Explosive atmospheres caused by gases, vapors or mists D: Explosive atmospheres caused by dust The equipment can be used in environments where gas and dust are present
IIB	The equipment is classified for a gas explosion group IIB
IIIC	The equipment is classified for a dust explosion group IIIC
Ta	Ambient temperature
Ex	Explosion symbol
h	No protection level applicable with the "h" character
Tx or Tx°C	Maximum surface temperature reached by at least one point of the component
GaDa	EPL of the component Identify potential ignition sources which are effective or can become effective in normal operation, in the case of expected malfunctions and in the case of rare malfunctions.

Product Description

The NovAseptic[®] Valve is specifically designed for aseptic applications. The NovAseptic[®] ATEX valves is composed of:

- A pneumatic actuator
- An optional position indicator
- A diaphragm: only EPDM or silicone are allowed for use in ATEX environment
- A valve body

Operational conditions

The valve body can only be used with NovAseptic[®] diaphragm, actuator and positioning indicator (optional).

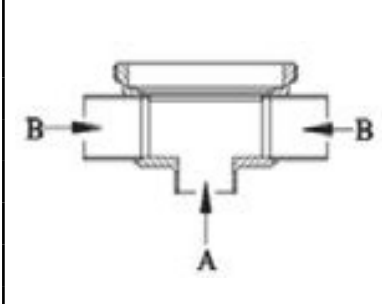
The applied diaphragm and actuator have different design temperature and/or pressure limits. The weakest component in the assembled product determines the maximum operating temperature and pressure limits. However, the overall assembly must be used in the following operating conditions:

- Max operating fluid temperature: 135° C
- Ambient temperature: 5 to 70° Cmax

Specifications

Min/Max Design Temperature	Min / Max Design Pressure	Surface	Standard Material	
			ASTM	EN
-20 / +200° C	-1 / 10 bar	Ra < 0.38 µm	316L	1.4404
			316L	1.4435

Valve Body Pressure Limits, bar (g)

	Catalog Number	A-Max (bar)	B-Max (bar)	Minimum (bar)
	NA12/ NU050	6	6	-1
	NA18/ NU075	6	6	-1
	NA25/ NU100	6	6	-1
	NA38/ NU100	6	6	-1
	NA51/ NU200	6	6	-1
	NA76/ NU300	3	3	-1

Diaphragm Technical Data

Material Type	Catalog Number	Temperature Resistance (approximately for short-term use)	
		Dry Heat	Head Steam
EPDM	NA##/22	140° C	140° C
Silicone	NA##/26	150° C	130° C

ATEX Pneumatic Actuator

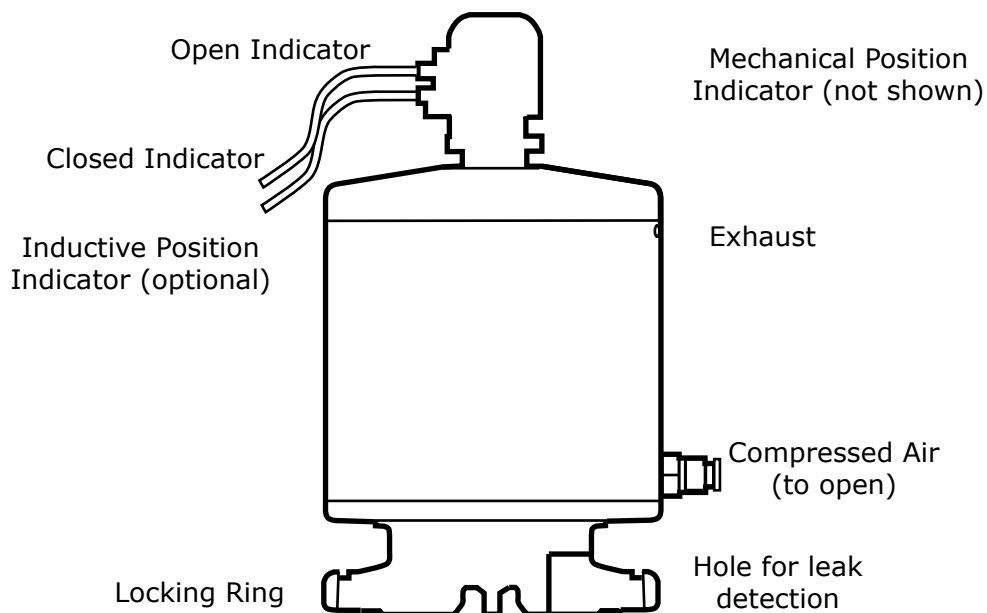
General Description

The intended use of the actuators is to actuate valves by translation movements of a diaphragm to open and close the valve.

Pneumatic actuators are driven by compressed air. The used air returns to the pilot valve and exhaust in the control cabinet in which the pilot valve is preferably located. A red or white mechanical position indicator on the top of the actuator indicates whether the valve is open or closed.

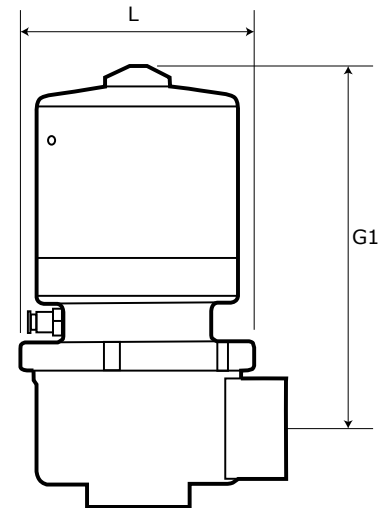
Note: The pneumatic actuator is not a serviceable item. It is sealed and permanently lubricated.

The normally closed (NC) actuator, (Type 1), uses spring force to close and air pressure to open. The NC actuator valve will always be closed by the spring when the pressure is turned off.



Technical Data

Part Number	Description	Dimension (mm)	
		L	G1
AX12/110	Actuator pneumatic, normally closed, SS	47	87
AX18/100		62	100
AX25/110		85	120
AX38/110		95	134
AX51/110		120	180
AX76/110		125	220



Air Supply

Specification	Requirement
Dry air	The air shall be dried to a dew point that prevent water to precipitate at the environmental conditions in which the valves are used.
Particle free	The air shall be filtrated through 10 micron filter.
Oil free	The actuators are factory lubricated and needs no extra lubrication.

Cylinder Volume Working Pressure (Pressureless Valve Body)

Type	Air Feed			Tube Diameter O.D. (mm)
	Lower chamber (to open cm3)	Minimum (bar)	Maximum (bar)	
AX12/110	3.2	7	8	4
AX18/100	7.2	7	8	4
AX25/110	25.0	7	8	6
AX38/110	40.8	7	8	6
AX51/110	86.4	7	8	6
AX76/110	86.4	7	8	6

Inductive Position Indicator Unit

The intended use of the unit is to observe that the lower sensor indicates open and the upper sensor indicates closed

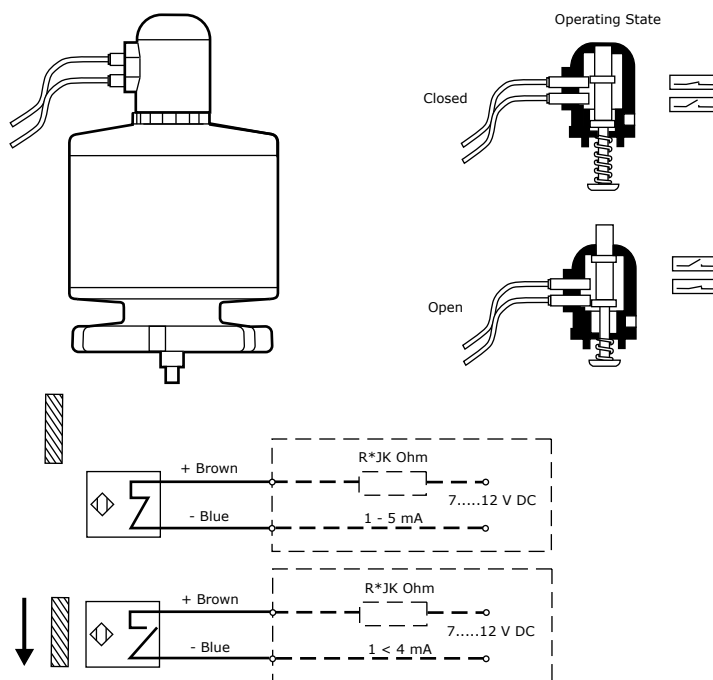
Inductive position indicators can only be used on pneumatic actuators.

The inductive position indicator units listed in the table below consist of inductive proximity switches for use in intrinsically safe applications.

NovAseptic® Valve	Inductive Position Indicator Units (preset for Silicone/EPDM diaphragms)
NA12	AX12/P11-SEV
NA18	AX18/P11-SEV
NA25	AX25/P11-SEV
NA38	AX38/P11-SEV
NA51	AX51/P11-SEV
NA76	AX76/P11*

*Only for use with EPDM diaphragm.

Inductive Proximity Switch Technical Data



Parameter	Value
Ambient Temperature	0 to 70° C (32 to 158° F)
Supply Voltage	DC7.....12V
Type of Exit	2 Wire
Output Function	N/C
Switching Frequency	1000 Hz
Protection Class	IP67
ATEX Reference	Ex ia IIC T6...T1 Ga Ex ia IIIC T135° C Da

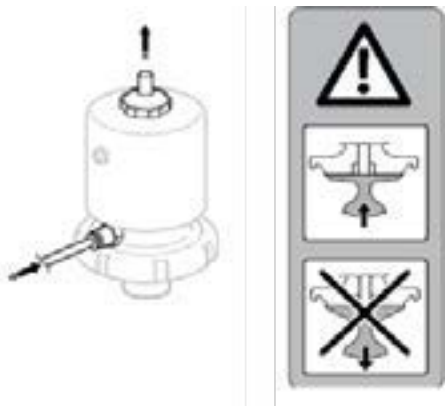
Valve Assembly Instructions

ATEX Valves NovAseptic® are supplied unassembled. Follow this installation guide to properly assemble the components.

1. Remove the valve body from its packaging and clean it with an appropriate cleaning solution.



2. Remove the diaphragm carefully from its package because it is a fragile component.
3. Manually screw the diaphragm onto the actuator.
4. The ATEX pneumatic actuator is normally closed. Use compressed air at the recommended pressure to actuate the diaphragm.



5. Keeping air supply position, install the actuator to the valve body.



6. Use a torque wrench and tightening tool (NA76/90 with NA76/22) and tighten the nut to 40Nm.



7. Release air to move the diaphragm down to reach closed position.
8. To supply the actuator with air, tighten the locking ring again.
9. Repeat step 7 and 8 twice to ensure proper tightness.

Maintenance

When servicing, installing, or disassembling any valve or valve assembly:

- Drain all fluids from process piping systems, vessels, instruments, etc.
 - Cool all system components to ambient temperature (20° C/70° F).
 - Reduce system pressure to atmosphere.
- Failure to perform any of points above could result in damage to process equipment and/or result in potential operator injury.

Pneumatic Actuator

These are cylinder actuators where the design ensures long and trouble-free operation.

Inspect the pneumatic actuator every 12 months for air leakage or physical damage. If leakage or any other visible damage is found, replace the actuator.

Contact Technical Service for more information.

Diaphragm

Inspect the diaphragm and replace it if:

- There is any leakage from the telltale hole.
- There are visible signs of wear, cracks or discoloration.

Do not tighten the locking ring when the valve is in the closed position.

Ensure that the actuator does not turn when the locking ring is tightened, especially when the post must be tightened.

The service interval depends on its working conditions such as temperature and type of medium. Use the table below as a guide.

Define the diaphragm replacement schedule based on the installation parameters.

Diaphragm Replacement

To avoid damage to the locking ring and/or improper seal of the diaphragm, please follow the guidelines below

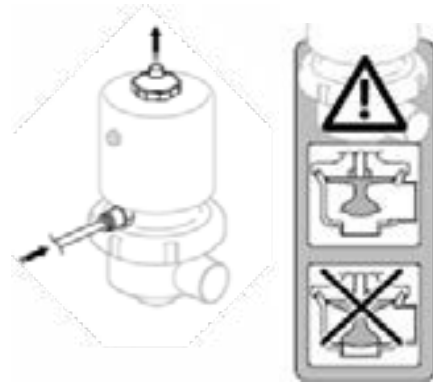
General Precautions

Do not tighten the locking ring when the valve is in the closed position (follow the instructions 1 to 3).

Make sure that the valve actuator does not turn when the locking ring is tightened.

Diaphragm Replacement

1. Pressurize the actuator to reach the "open" position. Unscrew the locking ring and remove the actuator.



2. Release the air pressure so that the actuator reaches the "closed" position. Unscrew the diaphragm.
3. Once the old diaphragm is removed refer to the Valve Assembly section to reassemble the components.

Always replace the diaphragm using the same reference.

Inspection Interval

Exposure to	Diaphragm Material	
	Silicone	EPDM
Water < 100° C	800 hours	2000 hours
Steam > 100° C, Max 130° C	50 hours	200 hours
Steam > 100° C, Max 140° C	X	200 hours

Caution:

All fluids must be drained from process piping systems, vessels, instruments etc., when servicing, installing, or disassembling any valve or valve assembly.

All system components must be completely cooled to ambient temperature (20° C/ 70° F) and all pressures must be opened to atmosphere before beginning this procedure.

Failure to comply could result in damage to the equipment and/or injury to the operator.

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