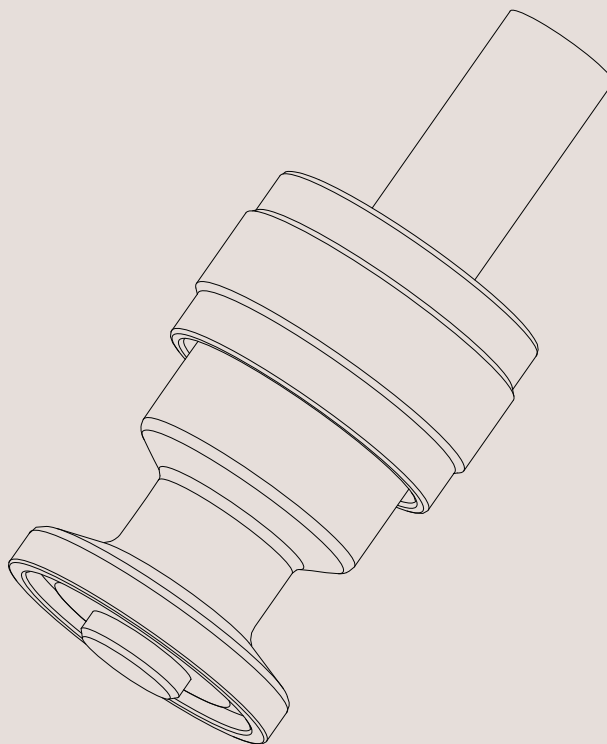




# Instruction Manual

## Unique Sampling Valve - Accessories - Non-Return Valves



2900-0084

ESE02425-EN1

2013-04

Original manual



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*The information herein is correct at the time of issue but may be subject to change without prior notice*

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# 1 Safety

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*Unsafe practices and other important information are emphasised in this manual.  
Warnings are emphasised by means of special signs.*

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## 1.1 Important information

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**Always read the manual before using the valve!**

### **WARNING**

Indicates that special procedures must be followed to avoid serious personal injury.

### **CAUTION**

Indicates that special procedures must be followed to avoid damage to the valve.

### **NOTE**

Indicates important information to simplify or clarify procedures.

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## 1.2 Warning signs

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General warning:



Caustic agents:



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*All warnings in the manual are summarised on this page.*

*Pay special attention to the instructions below so that serious personal injury and/or damage to the valve are avoided.*

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## 1.3 Safety precautions

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### Installation:

**Always** read the technical data thoroughly. (See chapter 5 Product information)

**Always** release compressed air after use.

**Never** touch the moving parts if the actuator is supplied with compressed air.

**Never** touch the valve or the pipelines when processing hot liquids or when sterilising.

**Never** dismantle the valve with the valve and pipelines under pressure.

**Never** dismantle the valve when it is hot.



### Operation:

**Never** dismantle the valve with the valve and pipelines under pressure.

**Never** dismantle the valve when it is hot.

**Always** read the technical data thoroughly. (See chapter 5 Product information)

**Always** release compressed air after use.

**Never** touch the valve or the pipelines when processing hot liquids or when sterilising.

**Never** touch the moving parts if the actuator is supplied with compressed air.

**Always** rinse well with clean water after cleaning.

**Always** handle lye and acid with great care.



### Maintenance:

**Always** read the technical data thoroughly. (See chapter 5 Product information)

**Always** release compressed air after use.

**Never** service the valve when it is hot.

**Never** service the valve with the valve and pipelines under pressure.

**Never** stick your fingers through the valve ports if the actuator is supplied with compressed air.

**Never** touch the moving parts if the actuator is supplied with compressed air.



### Transportation:

**Always** ensure that compressed air is released.

**Always** ensure that all connections are disconnected before attempting to remove the valve from the installation.

**Always** drain liquid out of valves before transportation.

**Always** use pre-designed lifting points if available.

**Always** ensure sufficient fixing of the valve during transportation - if specially designed packaging material is available, it must be used.

## 2 Installation

*This instruction manual is part of the delivery. Study the instructions carefully.  
The items refer to the parts list and service kits section.*

### 2.1 Unpacking/delivery

#### Step 1

##### CAUTION

Alfa Laval cannot be held responsible for incorrect unpacking.

##### Check the delivery for:

1. Valve
2. Instruction manual

#### Step 2

Remove possible packing materials from the valve/valve parts.  
Inspect the valve/valve parts for visible transport damage.  
Avoid damaging the valve/valve parts.

### 2.2 General installation

#### Step 1



**Always** read the technical data thoroughly.  
See chapter 5 Product information

##### CAUTION

Alfa Laval cannot be held responsible for incorrect installation.

Mount the Non-Return Valve on the upper connection with a clamp ring and seal.

NB: Clamp ring and clamp seal are not included in this package.

##### A - Clamp ring:

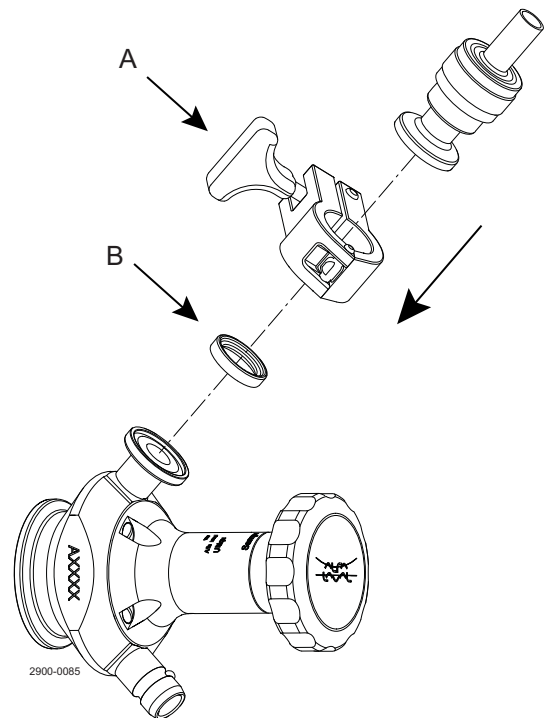
For Unique Sampling Valve sizes 4 and 10: Art. no. **211290**

For Unique Sampling Valve size 25: Art. no. **211053**

##### B - Clamp seal:

For Unique Sampling Valve sizes 4 and 10: Art. no. **290273**

For Unique Sampling Valve size 25: Art. no. **290044**



*Study the instructions carefully and pay special attention to the warnings!*  
*The valve has welding ends as standard but can also be supplied with fittings.*

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### 2.3 Recycling information

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- **Unpacking**

- Packing material consists of wood, plastics, cardboard boxes and in some cases metal straps.
- Wood and cardboard boxes can be reused, recycled or used for energy recovery.
- Plastics should be recycled or burnt at a licensed waste incineration plant.
- Metal straps should be sent for material recycling.

- **Maintenance**

- During maintenance, oil and wearing parts in the machine are replaced.
- All metal parts should be sent for material recycling.
- Worn or defective electronic parts should be sent to a licensed handler for material recycling.
- Oil and all non-metal wearing parts must be dealt with in accordance with local regulations.

- **Scrapping**

- At the end of use, the equipment should be recycled according to the relevant, local regulations. As well as the equipment itself, any hazardous residues from the process liquid must be considered and dealt with in a proper manner. When in doubt, or in the absence of local regulations, please contact your local Alfa Laval sales company.
-

### 3 Operation

*Study the instructions carefully and pay special attention to the warnings!*  
*Ensure that the valve operates smoothly.*  
*The items refer to the parts list and service kits section.*

#### 3.1 Operation



**Always** read the technical data thoroughly.  
See chapter 5 Product information

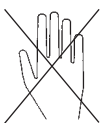
#### CAUTION

Alfa Laval cannot be held responsible for incorrect operation.



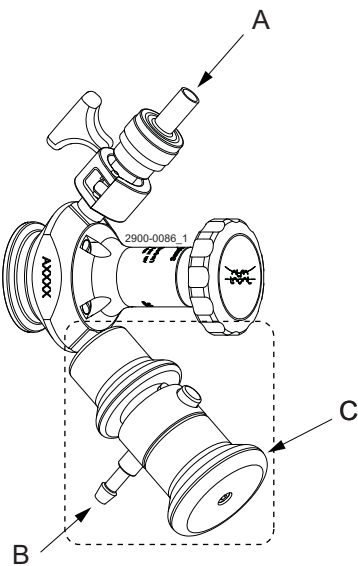
**Never** touch the valve or the pipelines when processing hot liquids or when sterilising.

**Danger of burns!**



The Non-Return Valve is used when performing a steam sterilisation on the Unique Sampling Valve.  
The valve allows steam to pass through and blocks for product when taking a sample.  
The Non-Return Valve can stay on the upper connection between sterilisations.

- A. Steam inlet
- B. Steam outlet
- C. We recommend the use of a pressure relief valve when performing steam sterilisation.  
(N.B. Not included in this package)



#### 3.2 Troubleshooting

#### NOTE!

Study the maintenance instructions carefully before replacing worn parts.

Problem	Cause	Repair
Steam leakage	O-ring is worn or damaged	Replace o-ring
	Clamp seal is worn or damaged	Replace clamp seal
Product leakage	Clamp seal is worn or damaged	Replace clamp seal
	Plug seal is worn or damaged	Replace plug seal



Study the instructions carefully and pay special attention to the warnings!  
Ensure that the valve operates smoothly.  
The items refer to the parts list and service kits section.

### 3.3 Recommended cleaning

#### Step 1



**Always** handle lye and acid with great care.

**Caustic danger!**



**Always** use  
rubber gloves!



**Always** use  
protective goggles!

#### Step 2



**Never** touch the valve or the pipelines when sterilising.

**Danger of burns!**



#### Step 3

Clean the plug and the seats correctly.  
**Pay special attention to the warnings!**  
**Lift and lower valve plug momentarily!**

#### Step 4

**Examples of cleaning agents:**

Use clean water, free from chlorides.

1. 1% by weight NaOH at 70° C

1 kg NaOH + 100 l water = Cleaning agent.

2.2 l  
33% NaOH + 100 l water = Cleaning agent.

2. 0.5% by weight HNO<sub>3</sub> at 70° C

0.7 l  
53% HNO<sub>3</sub> + 100 l water = Cleaning agent.

#### Step 5

1. Avoid excessive concentration of the cleaning agent.
2. Adjust the cleaning flow to the process.
3. **Always** rinse well with clean water after cleaning.

#### NOTE

The cleaning agents must be stored/disposed of in accordance with current regulations/directives.

**Always rinse!**



Clean water    Cleaning agents

## 4 Maintenance

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*Maintain the valve regularly.*

*Study the instructions carefully and pay special attention to the warnings!*

*Check the valve for smooth operation after service.*

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### 4.1 General maintenance

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Maintenance	Action
Maintenance after leakage	<ul style="list-style-type: none"><li>- Replace o-ring</li><li>- Replace clamp seal</li><li>- Replace plug seal</li></ul>
Planned maintenance	Regular inspection for leakage and smooth operation Keep a record of the valve Use the statistics for inspection planning Replace after leakage
Lubrication	None

#### Recommended spare parts

Service kits (see section 6 Parts List and Service Kits)

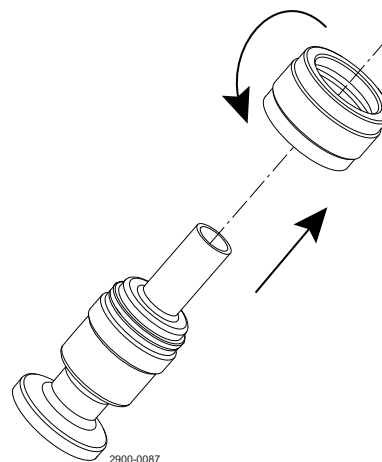
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Study the instructions carefully. The items refer to the parts list and service kits section. Handle scrap correctly.

### 4.2 Dismantling of valve

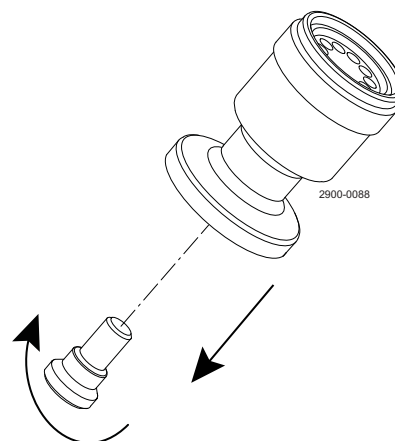
#### Step 1

1. Unscrew nut.
2. Remove pipe end.



#### Step 2

Unscrew plug.



### 4.3 Assembly of valve

#### Step 1

Follow the reverse order of chapter 4.2 Dismantling of valve  
Use Loctite 243 on thread before assembly.

## 5 Product information

*It is important to observe the technical data during installation, operation and maintenance.  
Inform personnel about the technical data.*

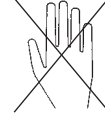
### 5.1 Technical data



**Attention!**

**Never** touch the valve or the pipelines when processing hot liquids or when sterilising.  
**Never** service the valve when it is hot.

**Danger of burns!**



#### Technical data

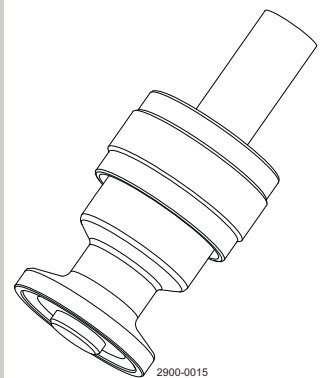
Max. product pressure	600 kPa (6 bar)
Max. working temperature	130 °C
Opening pressure	0-1 bar
Weight:	0.1 kg

#### Materials

Product wetted steel parts	1.4404* (316L) (internal Ra < 0.8 µm)
Other steel parts	1.4301 (304)
Sealing plug	PVDF* (3A, FDA and USP Class VI)
O-ring	EPDM (3A and FDA)

#### Spare parts

Sealing kit	See section 6 Parts List and Service Kits
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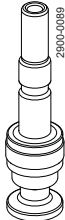
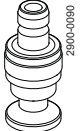
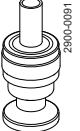
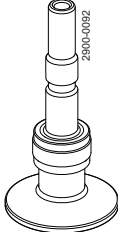
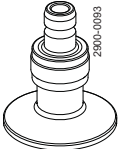
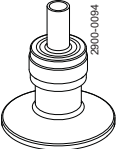


\* = parts with traceability.

*It is important to observe the technical data during installation, operation and maintenance.  
Inform personnel about the technical data.*

### 5.2 Product range

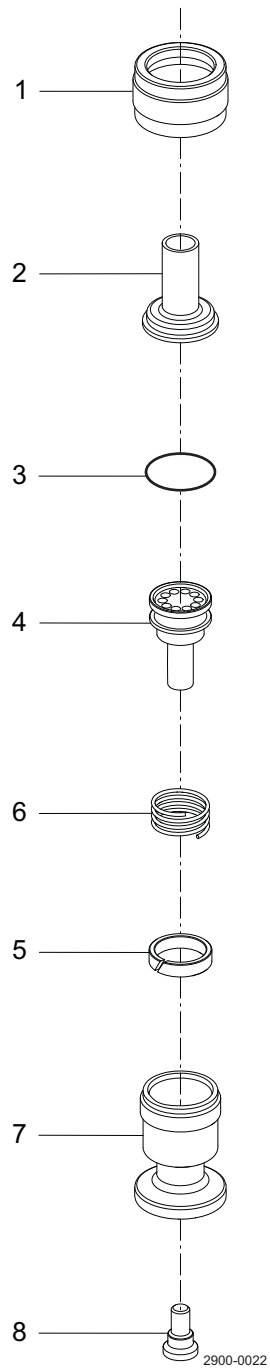
This is the standard Not Return Valve range that is compatible with the Unique Sampling Valve.

Non-Return Valve for Sampling Valve sizes 4 and 10			Non-Return Valve for Sampling Valve size 25		
For steam generator	For quick connection	For weld tube Ø10	For steam generator	For quick connection	For weld tube Ø10
					
9614-1955-01	9614-1955-02	9614-1955-03	9614-1955-04	9614-1955-05	9614-1955-06

## 6 Parts List and Service Kits

*Study the instructions carefully and pay special attention to the warnings!*

### 6.1 Non-Return Valve - size 4 10 and 25



## 6 Parts List and Service Kits

*Study the instructions carefully and pay special attention to the warnings!*

### Parts list

Pos.	Qty	Denomination
1	1	Non-Return valve
2	1	Nut
3 ▲	1	Inlet
4	1	O-ring
5	1	Piston
6	1	Guide ring
7	1	Spring
8 ▲	1	Body
		Plug

### Service kits

Denomination		Sizes	Size
		4 and 10	25
▲	Service kit .....	9611-9243-08	9611-9243-09

**How to contact Alfa Laval**

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

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

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