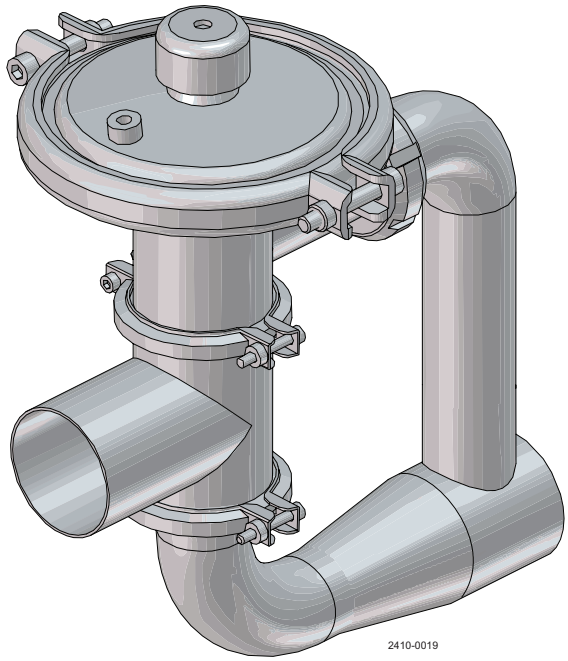
CPM-I-D60

Regulating valves



Lit. Code 200007889-2-EN-GB

Instruction Manual

British English

Published by
Alfa Laval Kolding A/S
Albuen 31
DK-6000 Kolding, Denmark
+45 79 32 22 00

The original instructions are in English

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1 Declarations of Conformity

EU Declaration of Conformity

The designated company

Alfa Laval Kolding A/S, Albuen 31, DK-6000 Kolding, Denmark, +45 79 32 22 00

Company name, address and phone number

Hereby declare that

Valve

Designation

CPM-I-D60

Type

is in conformity with the following directives with amendments:

- Machinery Directive 2006/42/EC

The person authorised to compile the technical file is the signer of this document.

Vice President Business Unit Hygienic Fluid Handling and Heat Transfer Technologies, Head of Product Management	Mikkel Nordkvist
Title	Name
Kolding, Denmark	2026-01-01
Place	Date (YYYY-MM-DD)



Signature

DoC Revison_ 01_012026 / This Declaration of Conformity replaces Declaration of Conformity dated 2022-11-18

EU Declaration of Conformity

The designated company

Alfa Laval Kolding A/S, Albuen 31, DK-6000 Kolding, Denmark, +45 79 32 22 00

Company name, address and phone number

Hereby declare that

Valve

Designation

CPM-I-D60

Type

is in conformity with the following directives with amendments:

- Regulation (EU) 2023/1230 on machinery

The person authorised to compile the technical file is the signer of this document.

Vice President Business Unit Hygienic Fluid Handling and Heat Transfer Technologies, Head of Product Management	Mikkel Nordkvist
Title	Name
Kolding, Denmark	2027-01-20
Place	Date (YYYY-MM-DD)



Signature

DoC Revison_02_012027

UK Declaration of Conformity

The designated company

Alfa Laval Kolding A/S, Albuen 31, DK-6000 Kolding, Denmark, +45 79 32 22 00

Company name, address and phone number

Hereby declare that

Valve

Designation

CPM-I-D60

Type

is in conformity with the following directives with amendments:

- The Supply of Machinery (Safety) Regulations 2008

Signed on behalf of: Alfa Laval Kolding A/S.

Vice President Business Unit Hygienic Fluid Handling and Heat Transfer Technologies, Head of Product Management	Mikkel Nordkvist
Title	Name

Kolding, Denmark	2026-01-01	
Place	Date (YYYY-MM-DD)	Signature

DoC Revison_02_012026

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2 Safety

Read this first





This Instruction Manual is designed for operators and service engineers working with the supplied Alfa Laval product.

Operators must read and understand the ***Safety, Installation and Operating*** instructions of the supplied Alfa Laval product before carrying out any work or before you put the supplied Alfa Laval product into service!

Not following the instructions can result in serious accidents.

This documentation describes the authorized way to use the supplied Alfa Laval product. Alfa Laval will take no responsibility for injury or damage if the equipment is used in any other way.

This Instruction Manual is designed to provide the user with the information to perform tasks safely for all phases in the lifetime of the supplied Alfa Laval product.

The operator shall always read the chapter ***Safety*** first. Hereafter the operator can skip to the relevant section for the task to be carried out or for the information needed.

Always read the chapter ***Technical Data*** thoroughly.

This is the complete Instruction Manual for the supplied Alfa Laval product.

NOTE

The illustrations and specifications in this Instruction Manual were effective at the date of printing. However, as continuous improvements are our policy, we reserve the right to alter or modify the Instruction Manual without prior notice or any obligation.

The English version of the Instruction Manual is the original manual. Alfa Laval cannot be held responsible for incorrect translations. In case of doubt, the English version applies.

2.1 Safety Signs

Mandatory Action Signs

	General mandatory action sign.
	Refer to instruction manual.
	Use eye protection - safety glasses.
	Use protective hand wear - safety gloves.
	Wear protective equipment - safety helmet.
	Use ear protection in noisy environments - noise protector.
	Wear protective equipment - safety shoes.

Warning Signs

	General warning.
	Transportation with forklift truck or other industrial vehicles if heavy.
	Hot surface and Burn Hazard.
	Cutting danger.
	Corrosive substance.
	Heavy object lifting.
	Crushing of hands.

2.2 Safety Precautions

All warnings in the Instruction Manual are summarised on these pages. Pay special attention to the instructions below so that severe personal injury and/or damage to the supplied Alfa Laval product is avoided.

Transportation and Lifting

  	**Never** lift or elevate in any way other than described in this manual. **Always** use the original packaging or similar during transportation. **Always** ensure that personnel must have experience with lifting operations. **Always** ensure that all connections are disconnected before attempting to remove the valve from the installation. **Always** ensure that no leakage of lubricants can occur. **Always** drain liquid out of the valves before transportation. **Always** ensure sufficient fixing of the valve during transportation - if specially designed packaging material is available, it must be used. **Always** ensure that compressed air is released.
 	**Always** use designated lifting points if defined. Ensure that the lifting equipment is suitable for the supplied Alfa Laval product. **Always** ensure that the unit is securely fixed during transportation. **Always** ensure the lifting point to be in line with center of gravity. Adjust lifting point if necessary. **Always** use suitable transport device ie. forklift or pallet lifter. **Always** use appropriate lifting equipment for heavy parts when relevant. Use lifting logs when available. **Always** keep an eye on the load and stay clear during the lifting operation.

Installation

	If the local safety regulations prescribe that the installation has to be inspected and approved by responsible authorities before the valve is put into service, consult with such authorities before installing the equipment and have the projected installation approved by them. **Always** release compressed air after use. **Always** assemble the valve completely before startup and make sure everything is in place and correctly tightened.
  	**Never** work on the valve or touch moving parts if the actuator is supplied with compressed air. **Always** ensure that the valve and pipelines are depressurized, emptied, and cooled down to ambient temperature before installation, inspection, assembly, or dismantling of the valve. **Never** touch the valve or the pipelines when processing hot liquids or when sterilising.

Operation

	**Never** operate the valve unless a correct installation has been verified. **Never** dismantle the valve during operation or when pressurized. **Necessary** precautions must be taken if leakage occurs as this can lead to hazardous situations.
	**Never** touch the valve or pipelines when hot. **Never** touch the valve or the pipelines when processing hot liquids or when sterilising.
	**Always** rinse well with clean water after cleaning. **Always** handle lye and acid with great care. **Always** follow the instructions in the safety data sheets from the suppliers of cleaning agents, detergents, oils etc.
	**Never** touch moving parts of the valve during operation. **Always** release compressed air after use. **Never** touch the moving parts if the actuator is supplied with compressed air.

Maintenance

	In order to optimise the operation of the supplied Alfa Laval product and to minimize the down time due repair activities, the maintenance includes: • Inspection and maintenance of the supplied Alfa Laval product: strictly follow the technical documentation • **Preventive maintenance:** visual inspection of the supplied Alfa Laval product followed by necessary adjustments and planned periodic replacement of wear and tear parts • **Repairs:** unscheduled break down of a component, often causing the system to stop. Damaged components must be replaced • **Stock of Alfa Laval genuine spare parts:** Alfa Laval recommend keeping a stock of genuine spare parts facilitating preventive maintenance and reducing downtime in case of unplanned break downs
 	**Always** use Alfa Laval genuine spare parts. **Always** release compressed air after use. **Always** ensure that the valve and pipelines are depressurized, emptied, and cooled down to ambient temperature before dismantling the valve. **Never** work on the valve or touch moving parts if the actuator is supplied with compressed air.
	**Never** service the valve with valve and pipelines under pressure **unless specifically prescribed.**

Storage



Alfa Laval recommend:

- Store the supplied Alfa Laval product as supplied in original packaging
- Port opening(s) should be protected against any ingress
- Bare steel (not stainless) should be lightly oiled/greased
- Store in a clean, dry place without direct sunlight or UV light
- Temperature range -5 °C to +40 °C (23 °F - 104 °F)
- Relative humidity less than 60%
- No exposure to corrosive substances (including contained air)

Noise



Under certain operating conditions, the supplied Alfa Laval product and/or the systems in which they are installed can produce high sound pressure levels. Appropriate noise protection measures should be taken when necessary and in accordance with local legislation.

Hazards



Burn Hazard

- Lubrication oil, machine parts and various machine surfaces can be hot and cause burns. Wear protective gloves



Corrosive Hazard

- Always handle cleaning liquids, lye and acid with great care and in accordance with separate instructions for those fluids
- When using chemical cleaning agents and lubricants, make sure you follow the general rules and suppliers recommendation regarding ventilation, personnel protection etc.



Cut Hazard

- Sharp edges, especially on bowl discs and threads, can cause cuts. Wear protective gloves

	**Crushing Hazard** • Avoid placing hands into valve orifice pinch points

Safety check

	A visual inspection of any protective device (shield, guard, cover or other) on the supplied Alfa Laval product shall be carried out at least every 12 months. If the protective device is lost or damaged, especially when this leads to deterioration of safety performance, it shall be replaced. The fixing of the protective device should only be replaced with fixings of the same or an equivalent type. **Inspection acceptance criteria:** • It should not be possible to reach moving parts originally protected by a protective device • The protective device must be securely mounted • Ensure that screws for the protective device are securely tightened **Procedure in case of non-acceptance:** • Fix and/or replace the protective device

2.3 Warning Signs in Text

Pay attention to the safety instructions in this Instruction Manual.

Below are definitions of the four grades of warning signs used in the text where there is a risk for injury to personnel or damage to the supplied Alfa Laval product.

DANGER

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate damage to the supplied Alfa Laval product.

NOTE

Indicates important information to simplify or clarify procedures.

2.4 Requirements of personnel

Operators

The operators shall read and understand this Instruction Manual.

Maintenance personnel

The maintenance personnel shall read and understand this Instruction Manual. The maintenance personnel or technicians shall be skilled within the field required to carry out the maintenance work safely.

Trainees

Trainees can perform tasks under the supervision of an experienced employee.

People in general

The public shall not have access to the supplied Alfa Laval product.

In some cases, specially skilled personnel may need to be hired (i.e. electricians, welders). In some cases the personnel has to be certified according to local regulations with experience of similar types of work.

2.5 Recycling information

Unpacking

Packing material may consist 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 (if used) and wear parts in the supplied Alfa Laval product should be replaced.

- Oil and all non-metal wear parts must be disposed of in accordance with local regulations
- Rubber and plastics should be burnt at a licensed waste incineration plant. If not available they should be disposed of in accordance with local regulations
- Bearings and other metal parts should be sent to a licensed handler for material recycling
- Seal rings and friction linings should be disposed of to a licensed land fill site. Check your local regulations
- All metal parts should be sent for material recycling
- Worn out or defected electronic parts should be sent to a licensed handler for material recycling

Scrapping

At end of use, the equipment must be recycled in accordance with the relevant local regulations. Besides 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.

How to contact Alfa Laval

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

Please visit *www.alfalaval.com* to access the information directly.

3 Introduction

The Alfa Laval CPM-I-D60 Constant Pressure Modulating Valve is a pneumatic regulating valve that maintains constant pressure in hygienic process lines and stainless steel pipe systems at the inlet side of the valve. Safe, reliable and easy to clean, this regulating valve provides accurate pressure control, quickly adjusting position to maintain the pressure at pre-set values without any need for electronic control.

3.1 Working Principle

The Alfa Laval CPM-I-D60 is controlled remotely by means of compressed air. The valve operates without a transmitter in the product line and requires only a self-relieving precision air regulator with gauge for the compressed air and a pressure gauge in the product line. A diaphragm/valve plug system reacts immediately to any alteration of the product pressure and changes position to maintain the pre-set pressure. The CPM-I-D60 opens when the product pressure increases and closes when the product pressure decreases.

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4 Installation

4.1 Unpacking/Delivery

NOTE

This Instruction Manual is part of the delivery. Study the instructions carefully.

The valve is assembled before delivery.

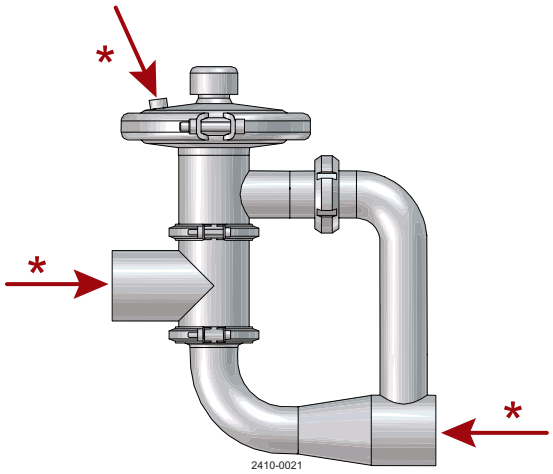
CAUTION

Alfa Laval cannot be held responsible for incorrect unpacking.

Check the delivery for:

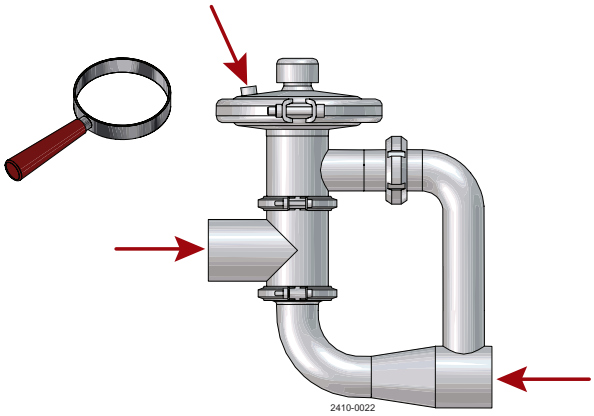
1. Complete valve.
2. Delivery note.
3. Instruction Manual.

1. Remove possible packing materials from the valve ports.

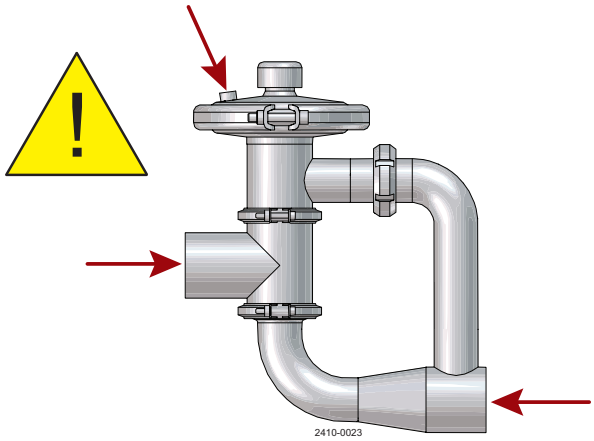


*** = Remove packing materials!**

2. Inspect the valve for visible transport damage.



3 Avoid damaging the air connection and the valve ports.



4.2 General installation

NOTE

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.

Always read the technical data thoroughly. See *Technical Data* on page 47.

CAUTION

Alfa Laval cannot be held responsible for incorrect installation.

WARNING

Always release compressed air after use. **Never** touch the valve top if compressed air is supplied to the valve.

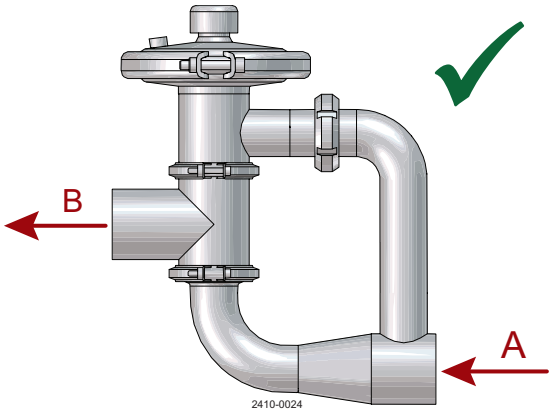


1

Ensure that the flow direction is correct.

A = Inlet

B = Outlet

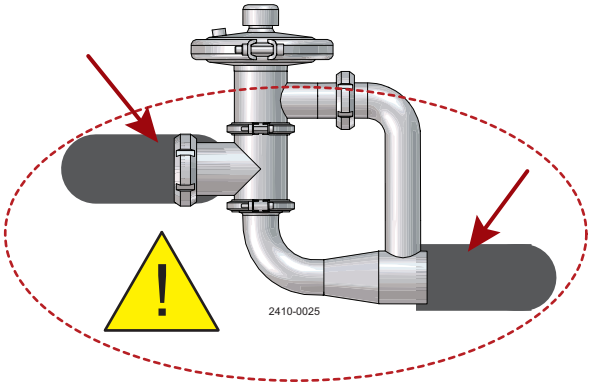


2

Avoid stressing the valve.

Pay special attention to:

- Vibrations
- Thermal expansion of the tubes
- Excessive welding
- Overloading of the pipelines

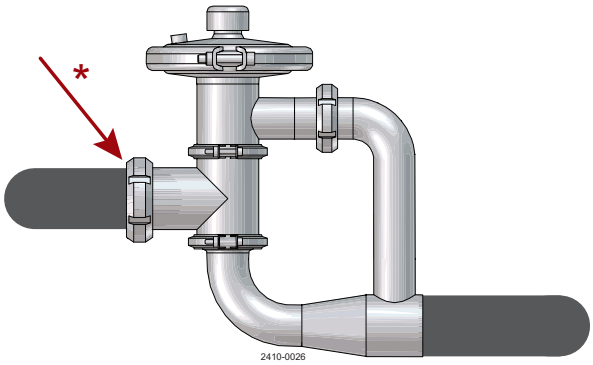


3

Fittings:

Ensure that the connections are tight.

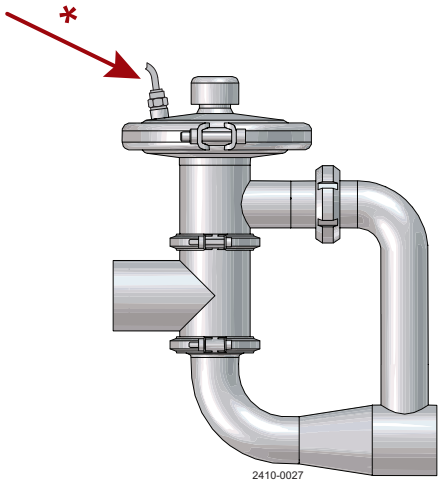
*** = Remember seal rings!**



4

Air connection:

*** = R1/4" (BSP)**

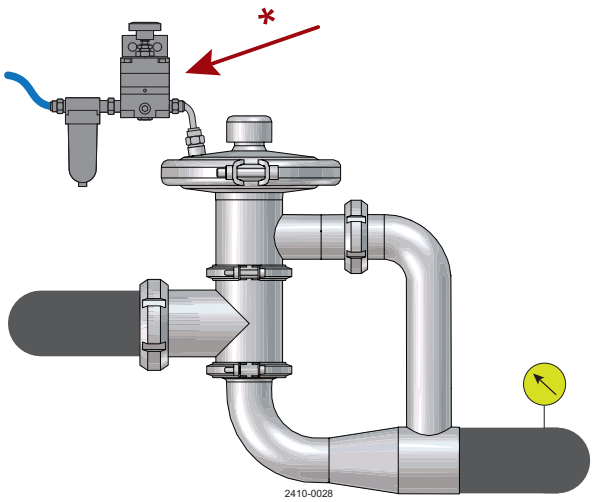


5

Air pressure regulating valve (optional extra):

It is recommended to install the air pressure regulating valve as close as possible to the valve.

*** = Pressure regulating valve. Install as close as possible.**



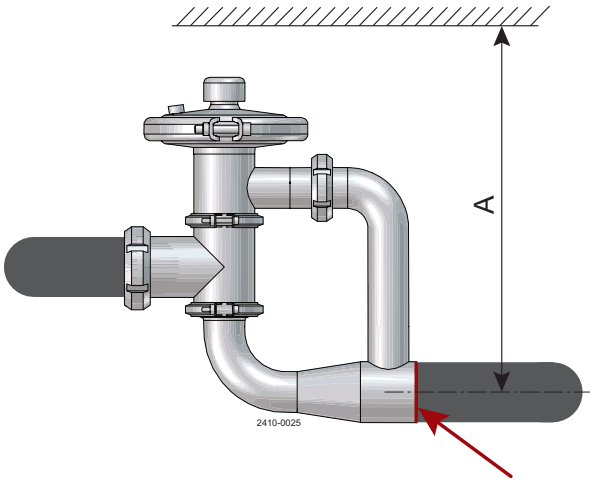
4.3 Welding

NOTE **Never weld both the inlet and outlet connections. If so, it will be impossible to service the lower valve body seal ring (16).**

1 Welding the inlet connection

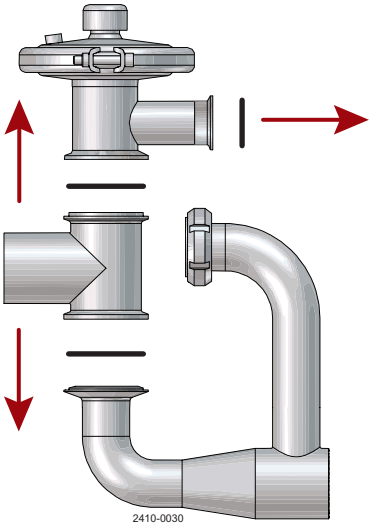
1. Weld the valve body into the pipelines.
2. Maintain the minimum clearance so that the internal valve parts can be removed.

A = 440 mm (without booster) / 540 mm (with booster)



2 Welding the outlet connection

Dismantle the valve in accordance with section *Dismantling* on page 37, Step *1* and *2*.

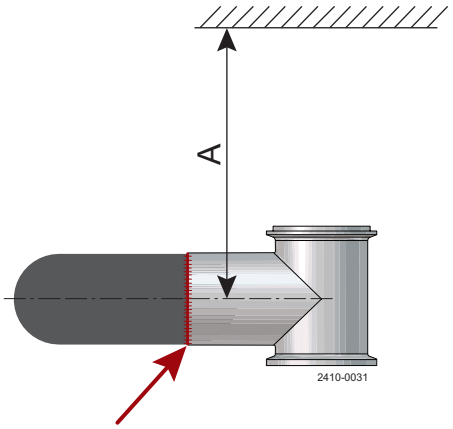


3

Welding the outlet connection:

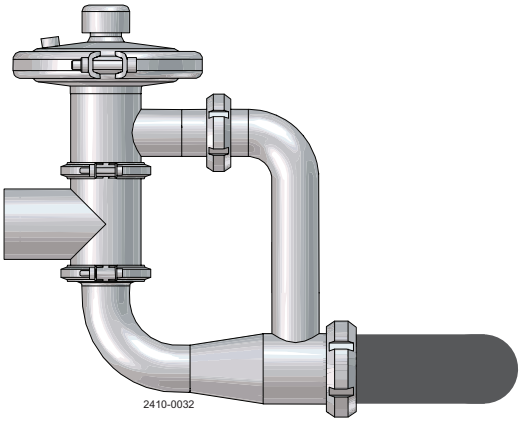
1. Weld the lower body (10) into the pipelines.
2. Maintain the minimum clearance so that the internal valve parts can be removed.

A = 284 mm (without booster) / 384 mm (with booster)



4 **Welding the outlet connection**:

Assemble the valve in accordance with section *Assembly* on page 42, Step *11* on page 45 and Step *12* on page 45.



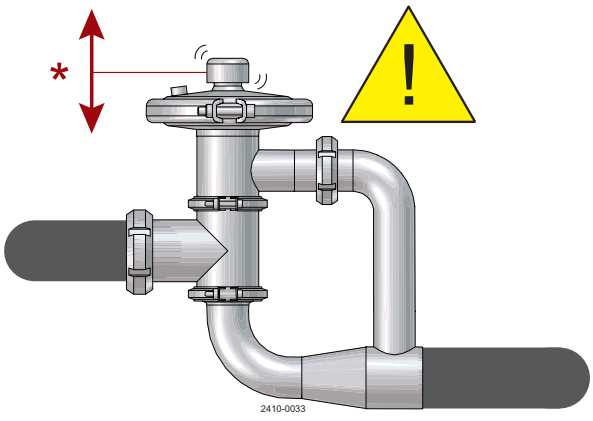
5 **Pre-use check:**

Lift and lower the valve top several times to ensure that the valve operates smoothly.

NOTE

Pay special attention to the warning!

* = Lift and lower by hand!



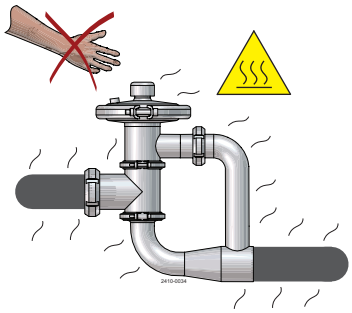
4.4 Fitting of Booster (optional extra)

DANGER

Never touch the valve or the pipelines when processing hot liquids or when sterilizing.

The valve and the pipelines must **never** be pressurised when dismantling the valve.

Atmospheric pressure required.



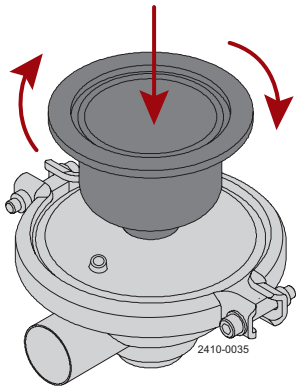
1

1. Remove the valve top in accordance with section *Dismantling* on page 37, Step *5* on page 38.

   NOTE

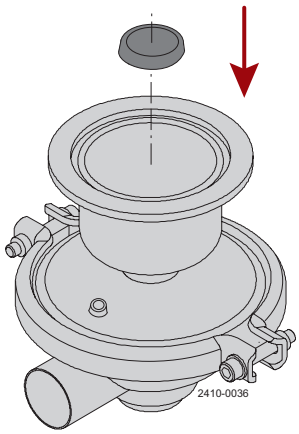
   Pay special attention to the warnings!

2. Fit Booster housing (1) on the cover.
3. Fit and tighten lock nut (2).



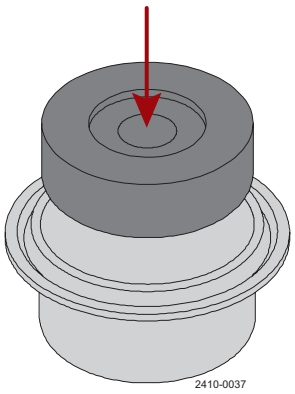
2

1. Fit washer (3).
2. Refit the washer and the top nut on the valve plug.



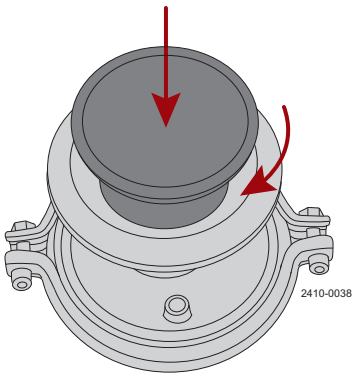
3

1. Turn diaphragm (7) inside out.
2. Place piston (6) in the diaphragm so that the hole is visible.



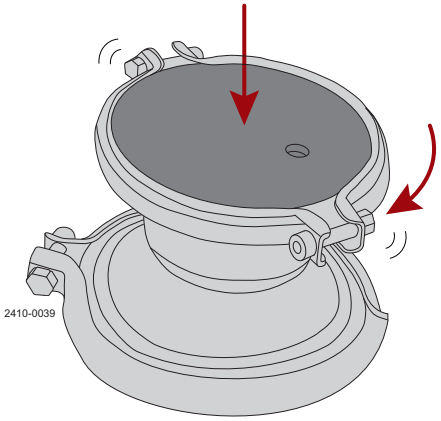
4

1. Roll diaphragm (7) down half it's lenght.
2. Fit the diaphragm with piston (6) in Booster housing (1).



5

1. Fit cover (8) on Booster housing (1).
2. Fit and tighten clamp (9).
3. The valve and the Booster are now ready for operation.



5 Operation

5.1 General Operation

NOTE

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

Ensure that the valve operates smoothly.

Always read the technical data thoroughly. See *Technical Data* on page 47.

Always release compressed air after use.

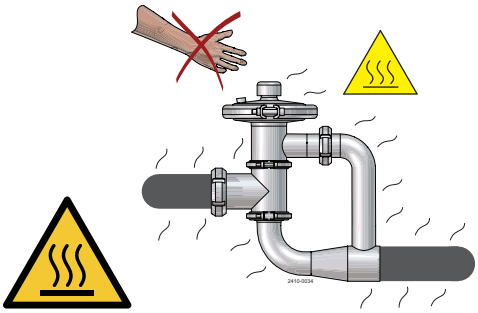


CAUTION

Alfa Laval cannot be held responsible for incorrect operation.

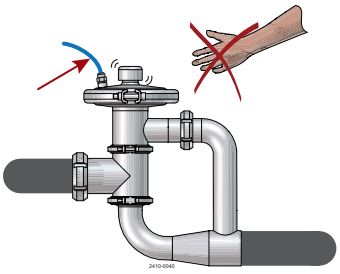
DANGER **Danger of burns!**

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



DANGER

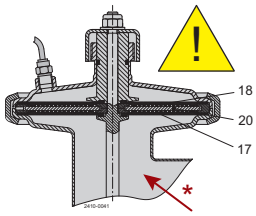
Never touch the valve top if compressed air is supplied to the valve.



CAUTION

There must not be vacuum in the valve as air can be drawn into the product and diaphragms (17) can then be pulled out from support sectors (20).

* = No vacuum!

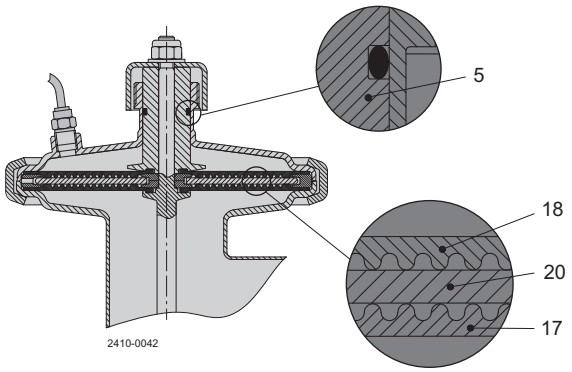


Lubrication

1. Ensure smooth movement between diaphragms (17,18) and support sectors (20).
2. Ensure smooth movement of guide (5).

NOTE **Lubricate if necessary!**

See *General Maintenance* on page 35.



5.2 Troubleshooting

> **NOTE**
>
> Pay attention to possible faults.
>
> Study the maintenance instructions carefully before replacing worn parts (see *General Maintenance* on page 35.
>
> The items refer to the parts list and service kits sections.

Problem	Cause/result	Repair
The valve does not maintain the preset pressure	• Faulty diaphragm	• Replace the diaphragm
	• Guide (9) seizes	• Lubricate the guide (see chapter *General Operation*, section *Lubrication* on page 30)
	• Incorrect operating range	• Check the pressure drop over the valve and check the flow rate (see chapter *Selection / Pressure drop - capacity diagram* on page 48)
	• The available air pressure is lower than the product pressure	• Increase the air pressure eg. by using a Booster (see chapter *Fitting of Booster (optional extra)* on page 27).
	• The air pressure is not correctly adjusted	• Readjust the air pressure
	• Faulty air pressure regulating valve or incorrect type	• Repair the valve or check that it is pressure compensating
Product leakage	• Worn diaphragm or product affected diaphragm	• Replace the diaphragm
Air leakage	• Worn O-ring	• Replace the O-ring
	• Worn diaphragm (10)	• Replace the diaphragm
	• Worn and hard diaphragm (10)	• Replace by a diaphragm of a different grade for higher temperature (see chapter *Weight* on page 47)
Valve plug moving too fast up and down (unstable)	• Pressure pulsations because of fast changes in process conditions	• Use an air throttling valve (optional extra between the air pressure regulating valve and the CPM-I-D 60 valve.

5.3 Recommended Cleaning

NOTE

The supplied product is designed for cleaning in place (CIP).

NaOH = Caustic soda.

HNO_3 = Nitric acid.

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

CAUTION

Never touch the supplied product or the pipelines when sterilizing.

Always handle lye and acid with great care.

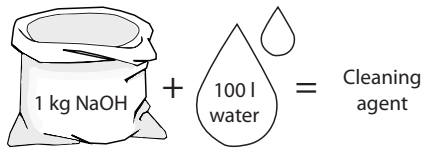


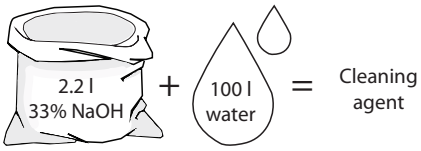
Examples of cleaning agents

Use clean water free from chlorides

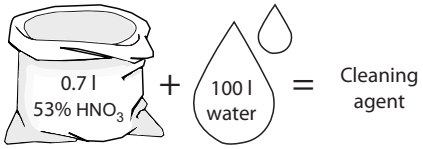
Metric System

1. 1% by weight NaOH at 70°C



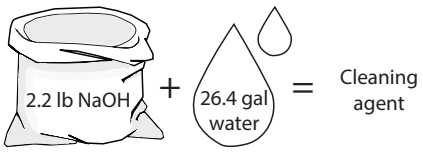


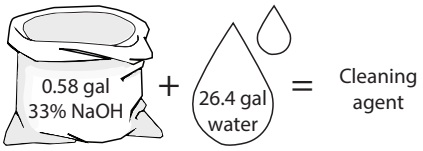
2. 0.5% by weight HNO_3 at 70°C



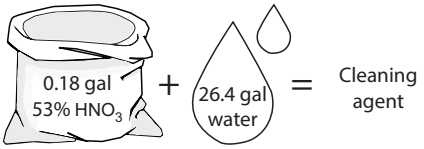
Imperial System

1. 1% by weight NaOH at 158°F





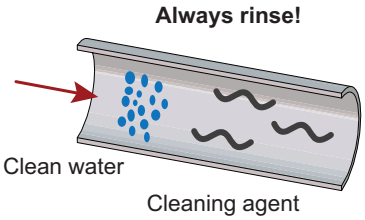
2. 0.5% by weight HNO_3 at 158°F



1. Avoid excessive concentration of the cleaning agent ⇒ **Dose gradually!**
2. Adjust the cleaning flow to the process
   Milk sterilization/viscous liquids ⇒ Increase the cleaning flow!

CAUTION

Always rinse well with clean water after the cleaning.



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6 Maintenance

6.1 General Maintenance

NOTE

Maintain the valve regularly.

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

Always read the technical data thoroughly. See *Technical Data* on page 47.

All scrap must be stored/discharged in accordance with current regulations/directives.

Always keep spare diaphrams and o-rings in stock. Always use Alfa Laval genuine spare parts.

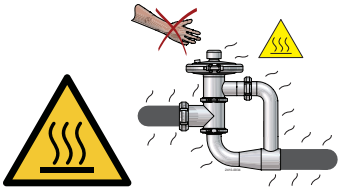
Check the valve for smooth operation after service.

DANGER **Danger of burns!**

Never service the valve when it is hot.

Never service the valve with valve and pipelines under pressure.

*** = Atmospheric pressure required!**



Guidelines for maintenance intervals and lubrication

Please note that the guidelines are for normal working conditions in one shift.

	Diaphragms	O-ring
Preventive maintenance	**Replace after 12 months**	Replace when replacing the diaphragms
Maintenance after leakage (leakage normally starts slowly)	**Replace by the end of the day**	Replace when replacing the diaphragms
Planned maintenance	• Regular inspection for leakage and smooth operation • Keep a record of the valve • Use the statistics for planning of inspections **Replace after leakage**	Replace when replacing diaphragms

Lubrication (before assembly)	
Guide	Molycote longterm 2 Plus
Sectors	Molycote 111
Threads	Molycote TP42

6.1.1 Maintenance product contact parts made of plastic

These plastic parts are designed for safe contact with food and should only be used as intended, as stated in the product Instruction Manual provided with this product. Using these parts outside their intended purpose (e.g., exposure to excessive heat, harsh chemicals, or incompatible foods) may increase the risk of harmful substances migrating into food. Always use the product as intended to avoid risks.

Normal Usage Changes:

Minor scratches, slight discolouration over time, fading of printed markings, deformation

Changes Affecting Safety:

Cracks or chalkiness, blisters or chips, sticky or tarnished surfaces, unusual odours.

How to Prevent/Slow Down Deterioration:

- Use it within the permitted temperature limits and limits for CIP[1]
- Do not use abrasive cleaners or scouring pads
- Do not use in contact with foods for which it is not intended (See: product Instruction Manual)

Handling, Cleaning, and Storing Instructions

- Follow the recommended cleaning procedure and only use permitted chemicals or detergents in correct concentrations and temperatures
- Store in a cool, dry place, protected from UV-light

When to Replace

Replace the plastic part if you notice:

- Cracks, chalkiness, blisters, chips or sticky surface, discolouration (if it does not come from the media itself)
- Any change in appearance that raises doubts about safety

Conditions for Discontinuing Use

- If the part shows any of the safety-related deterioration signs above
- After a recommended period of use (see service interval)
- If the part has been exposed to conditions outside the product's (manufacturer's) instructions (e.g., high heat, harsh chemicals, excessive concentration/temperatures of CIP[1])

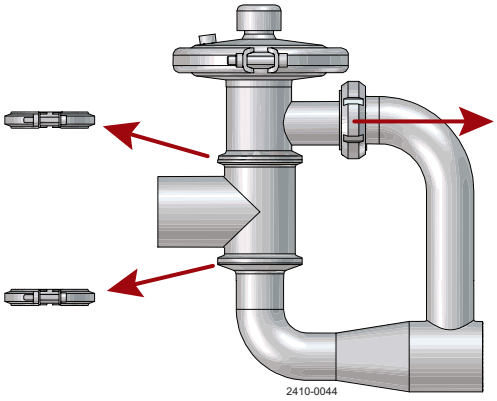
[1] Cleaning In Place

6.2 Dismantling

> **NOTE**
>
> Study the instructions carefully.
>
> The items refer to *Parts lists and exploded views* on page 51.
>
> Handle scrap correctly.

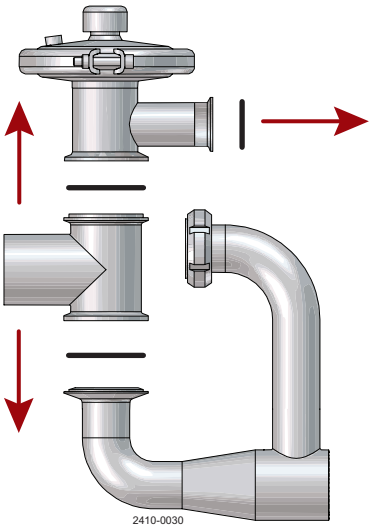
(1)

1. Remove clamps (14,15).
2. Loosen the connection between valve body (12) and inlet tube (9).

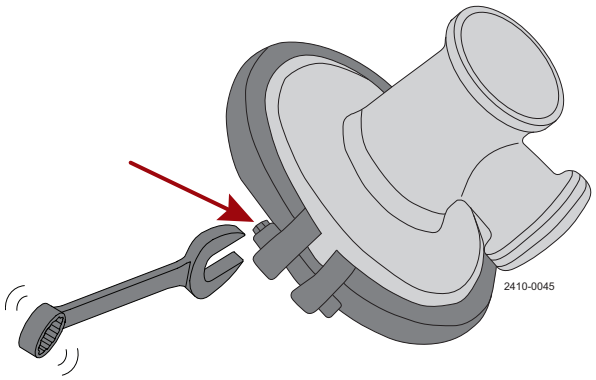


(2)

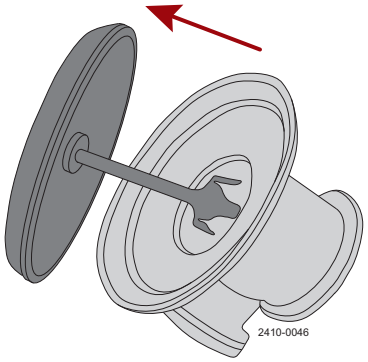
1. Remove inlet tube (9) and lower valve body (10).
2. Remove seal rings (8, 16).



3 Remove clamp (22).



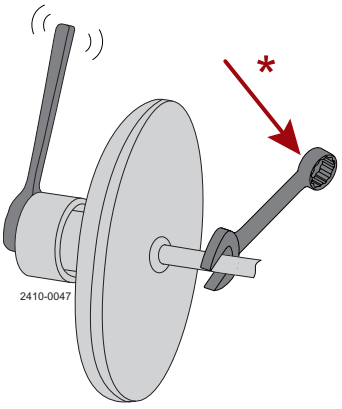
4 Remove cover (19) together with the internal parts of the valve.



5

Remove top nut (1), washer (2) and top (3).

*** = Counterhold!**

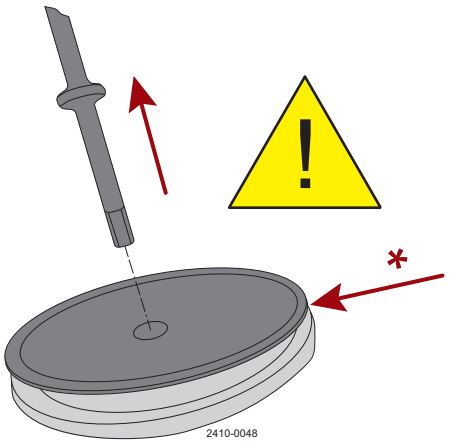


6

Remove plug (7) from the diaphragm unit and guide (5).

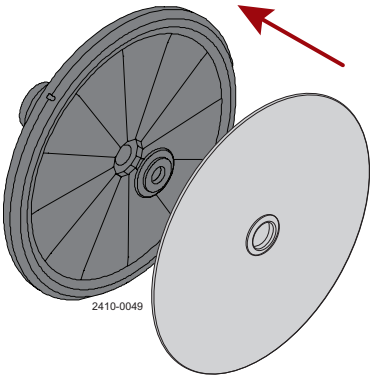
CAUTION

* = Ensure that cover (19) is turned downwards and plug (7) is pulled upwards so that sectors (20) are not separated from diaphragms (17, 18).



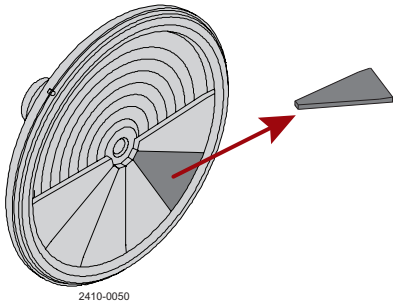
7

Remove lower inner ring (13) and lower diaphragm (17).

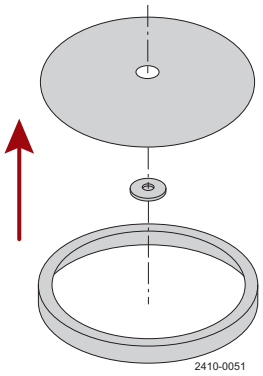


8

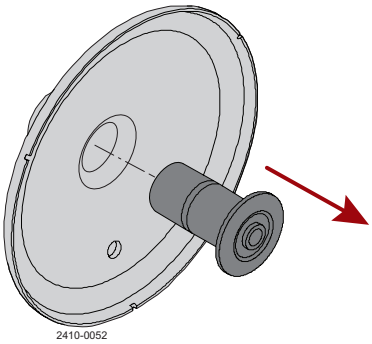
Remove sectors (20).



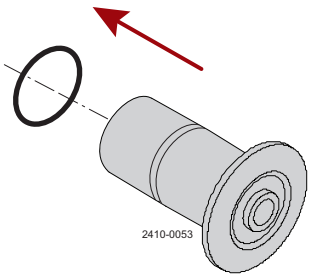
9 Remove outer ring (21), upper inner ring (13) and upper diaphragm (18).



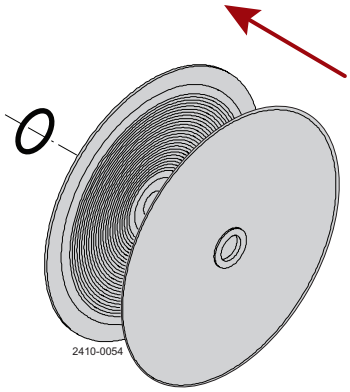
10 Remove guide (5).



11 Remove o-ring (6).



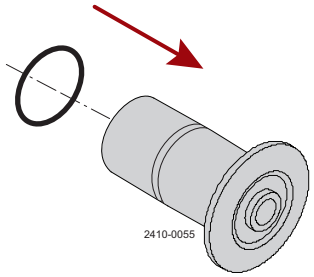
12 Replace the o-ring, the seal rings and the diaphragms.



6.3 Assembly

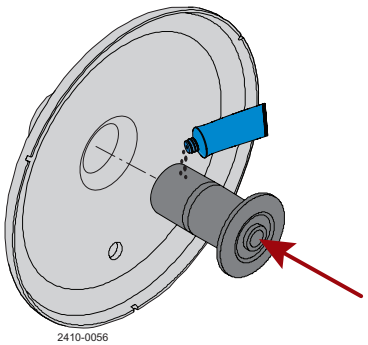
> **NOTE**
>
> Study the instructions carefully.
>
> Lubricate the guide, the sectors and the threads before assembly.
>
> The items refer to *Parts lists and exploded views* on page 51.

1. Fit O-ring (6).



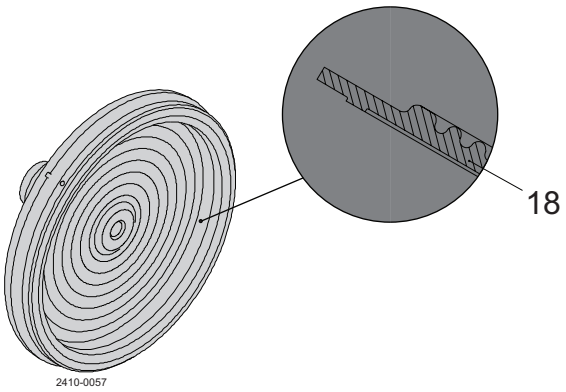
2. Lubricate guide (5), and fit it.

> **NOTE**
>
> **Turn cover (19) downwards before continuing.**

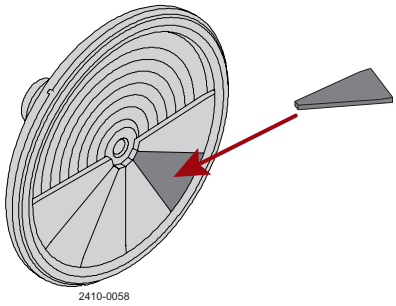


3. Fit upper diaphragm (18), upper inner ring (13) and outer ring (21) on guide (5) and cover (19).

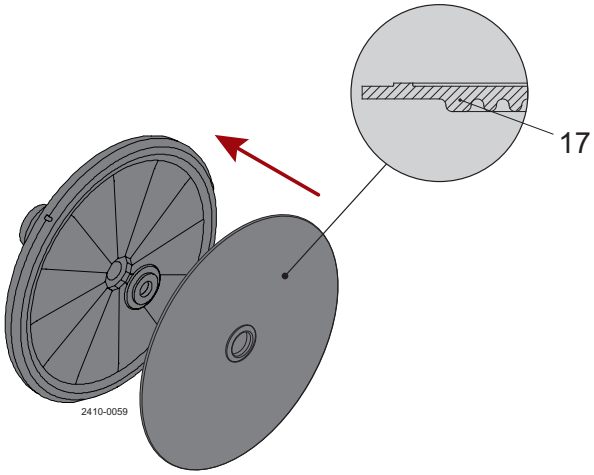
> **NOTE**
>
> **The outer ring must be turned so that the indication hole is fixed to the indication hole in the cover.**



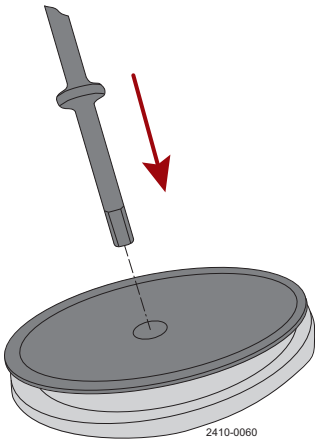
4 Fit sectors (20) between upper inner ring (13) and outer ring (21).



5 Fit lower inner ring (13) and lower diaphragm (17).

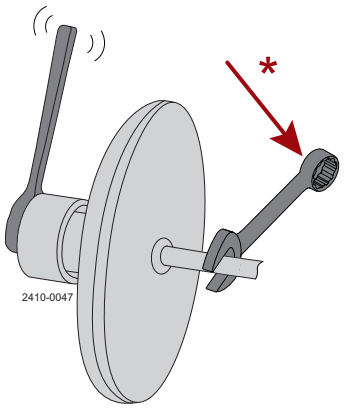


6 Fit plug (7) in the diaphragm unit and guide (5) until the flange of the plug contacts lower diaphragm (17).

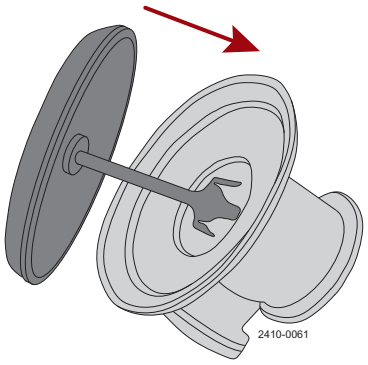


7 Fit top (3), washer (2) and top nut (1).

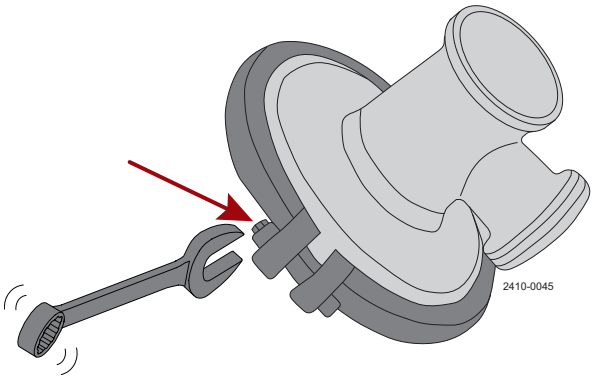
*** Counterhold!**



8 Fit cover (19) together with the internal parts of the valve.

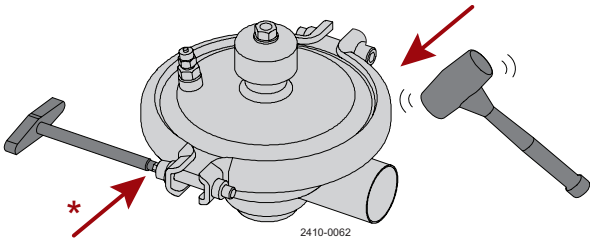


9 Fit and tighten clamp (22).



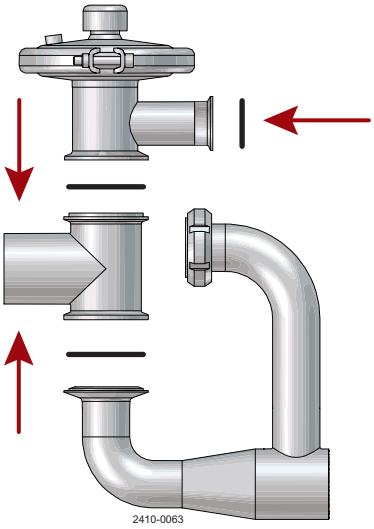
10 Assemble the valve in accordance with step *6* - *10* in chapter *Assembly* on page 42.

* = tighten clamp 10-15 Nm (7.5-11 lbf-ft)



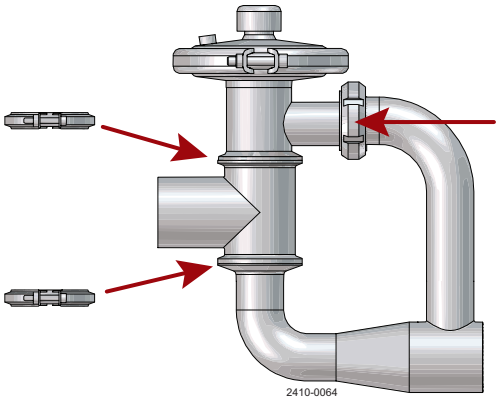
11

1. Fit seal rings (8, 16).
2. Fit lower valve body (10) and inlet tube (9).



12

1. Tighten the connection between valve body (12) and inlet tube (9).
2. Fit and tighten clamps (14,15).

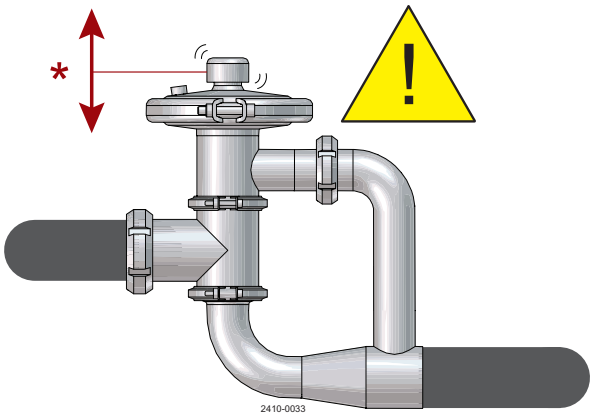


13 **Pre-use check**: Lift and lower the valve top a few times to ensure that the valve operates smoothly.

NOTE

Pay special attention to the warning!

*** = Lift and lower by hand!**



7 Technical Data

> **NOTE**
>
> Technical data must be observed during installation, operation and maintenance.
>
> All personnel should be informed about the technical data.

7.1 Technical Data

Temperature	
Temperature range:	-10°C to +95°C / 14°F to 203°F
Temperature range with upper diaphragm in PTFE/EPDM:	-10°C to +140°C / 14°F to 286°F

Pressure	
Max. product pressure:	1000 kPa (10 bar) / 145 psi
Min. product pressure:	0 kPa (0 bar = Atmospheric) / 0 psi
Air pressure:	0 to 600 kPa (0 to 6 bar) / 0 to 87 psi
Flow Kv 60, fully open (Dp = 14.5 psi):	Approx 60 m^3h / 264 gpm

7.2 Physical Data

Materials	
Product wetted steel parts:	EN 1.4404 / AISI 316L
Other steel parts:	EN 1.4301 / AISI 304
Lower diaphragm:	PTFE covered EPDM rubber
Upper diaphragm:	NBR
O-ring:	Nitrile (NBR)
Seal rings:	EPDM (standard)
Finish:	≤ 32 RA

7.2.1 Weight

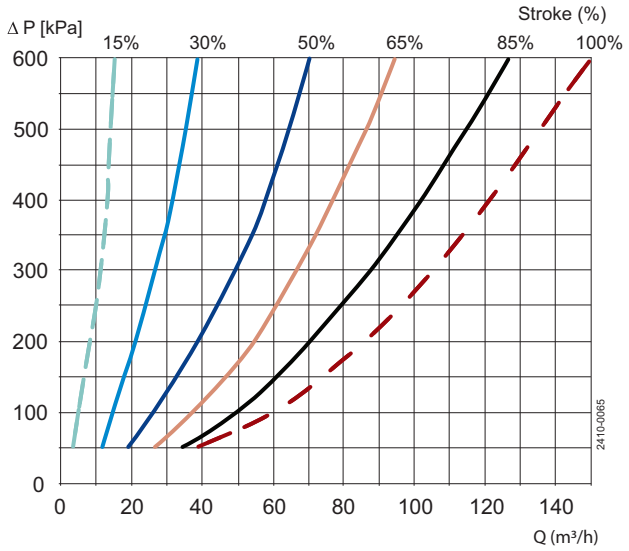
Weight (kg)

Size	**CPMI - 2**			**CPMO - 2**			**CPM-I-D60**
	Kv 23	**Kv 7**	**Kv 2/15**	**Kv 23**	**Kv 9**	**Kv 2/15**	**76 mm**
Weight	5.5	5.5	5.5	5.5	5.5	5.5	10.00

Weight (lbs)

Size	**CPMI - 2**			**CPMO - 2**			**CPM-I-D60**
	Kv 23	**Kv 7**	**Kv 2/15**	**Kv 23**	**Kv 9**	**Kv 2/15**	**76 mm**
Weight	12.1	12.1	12.1	12.1	12.1	12.1	22.0

7.3 Selection / Pressure drop - capacity diagram



> **NOTE**
>
> **For the diagrams the following applies:**
>
> Medium: Water (20°C) (68°F).
>
> Measurement: In accordance with VDI 2173.

Example of using the diagram:

Pressure drop Δ p = 300 kPa.

Flow = 50 m^3/h.

The intersection is on the 50% curve

8 Spare parts

For every delivered Alfa Laval Product, a spare part list is available.

This spare part list contains a range of the most common wear parts for the machinery. If any component not mentioned is required, please contact your local Alfa Laval representative for availability.

You can find our spare part catalogue at *https://hygienicfluidhandling-catalogue.alfalaval.com*.

Always use Alfa Laval genuine spare parts. The warranty of Alfa Laval products is dependent on use of Alfa Laval genuine spare parts.

8.1 Ordering spare parts

When ordering spare parts, please always state:

1. Serial number (if available)
2. Item number/spare part number (if available)
3. Capacity or other relevant identification

8.2 Alfa Laval service

Alfa Laval is represented in all larger countries of the world.

Do not hesitate to contact your local Alfa Laval representative, with any questions or requirement of spare parts for Alfa Laval equipment.

8.3 Warranty - Definition

WARNING

The rules of Intended use are absolute. Use of the supplied Alfa Laval product is allowed only when in compliance with the technical data supplied with the Intended use.

Differing utilisation, other than agreed with Alfa Laval Kolding A/S, exclude any liability and warranty.

No modification or alteration of the supplied Alfa Laval product is allowed, unless explicit permission is granted by Alfa Laval Kolding A/S.



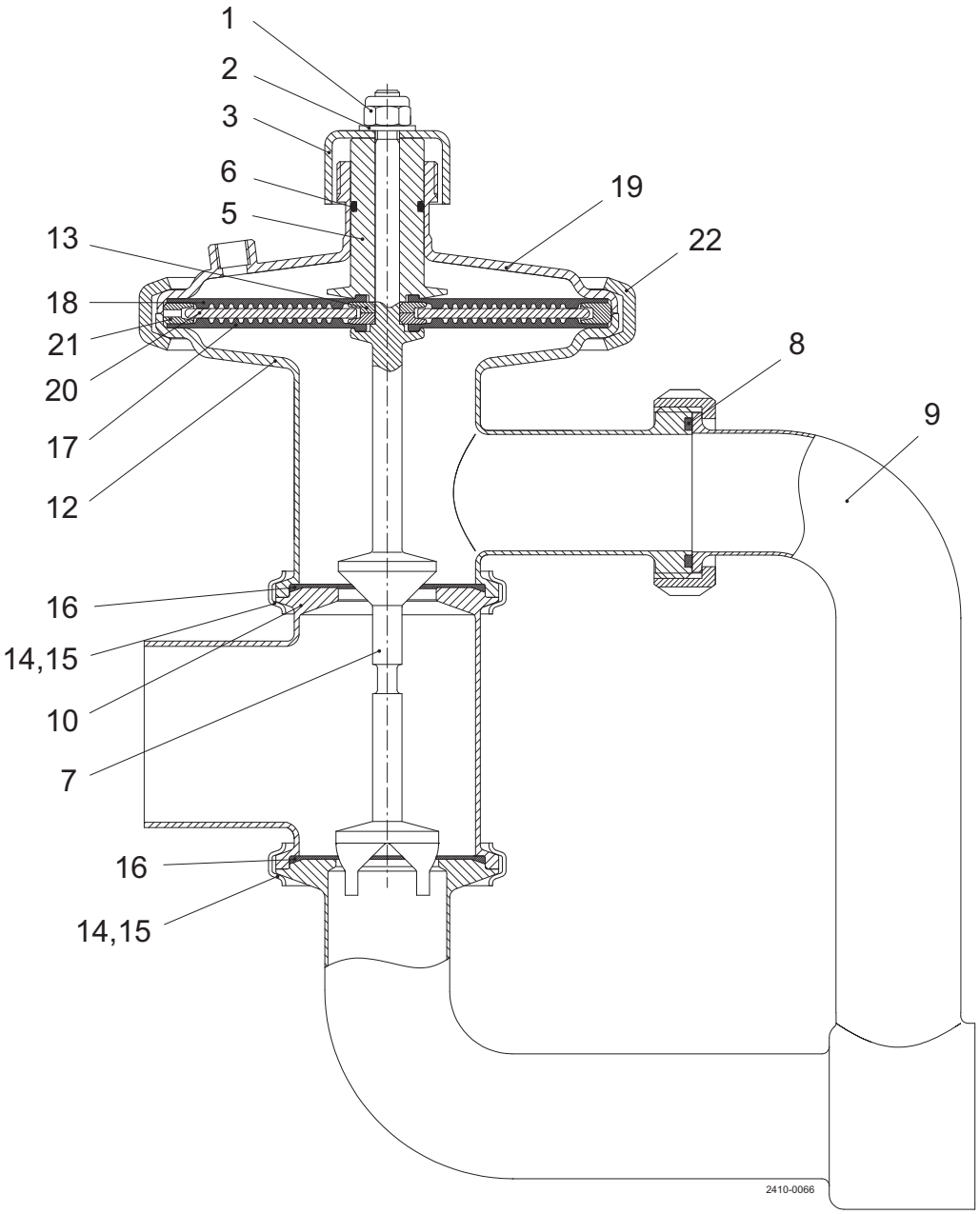
Liability and warranty are excluded:

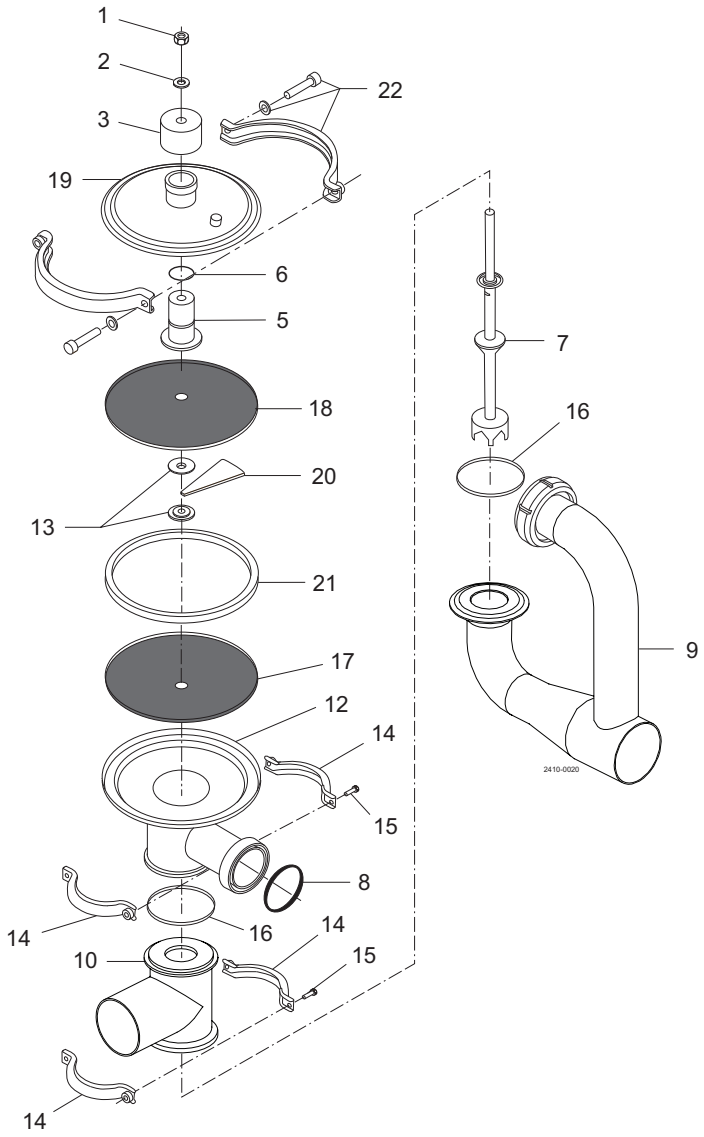
- If advice and instruction of operating instructions are ignored
- For incorrect operation or for insufficient maintenance of the supplied Alfa Laval product
- For any kind of change of function of the supplied Alfa Laval product without prior written agreement by Alfa Laval Kolding A/S
- If supplied Alfa Laval product is modified by non-authorised persons
- If using the supplied Alfa Laval product without attention of appropriate safety regulations, (see *Safety* on page 9)
- If protection equipment is not used and vessel process / ancillary equipment is not brought to a standstill
- If the supplied Alfa Laval product and ancillary parts are not properly maintained (to be executed in intervals and including fitting of prescribed replacement parts)

When exchanging parts, only original replacement parts, released from the manufacturer, must be used.

9 Parts lists and exploded views

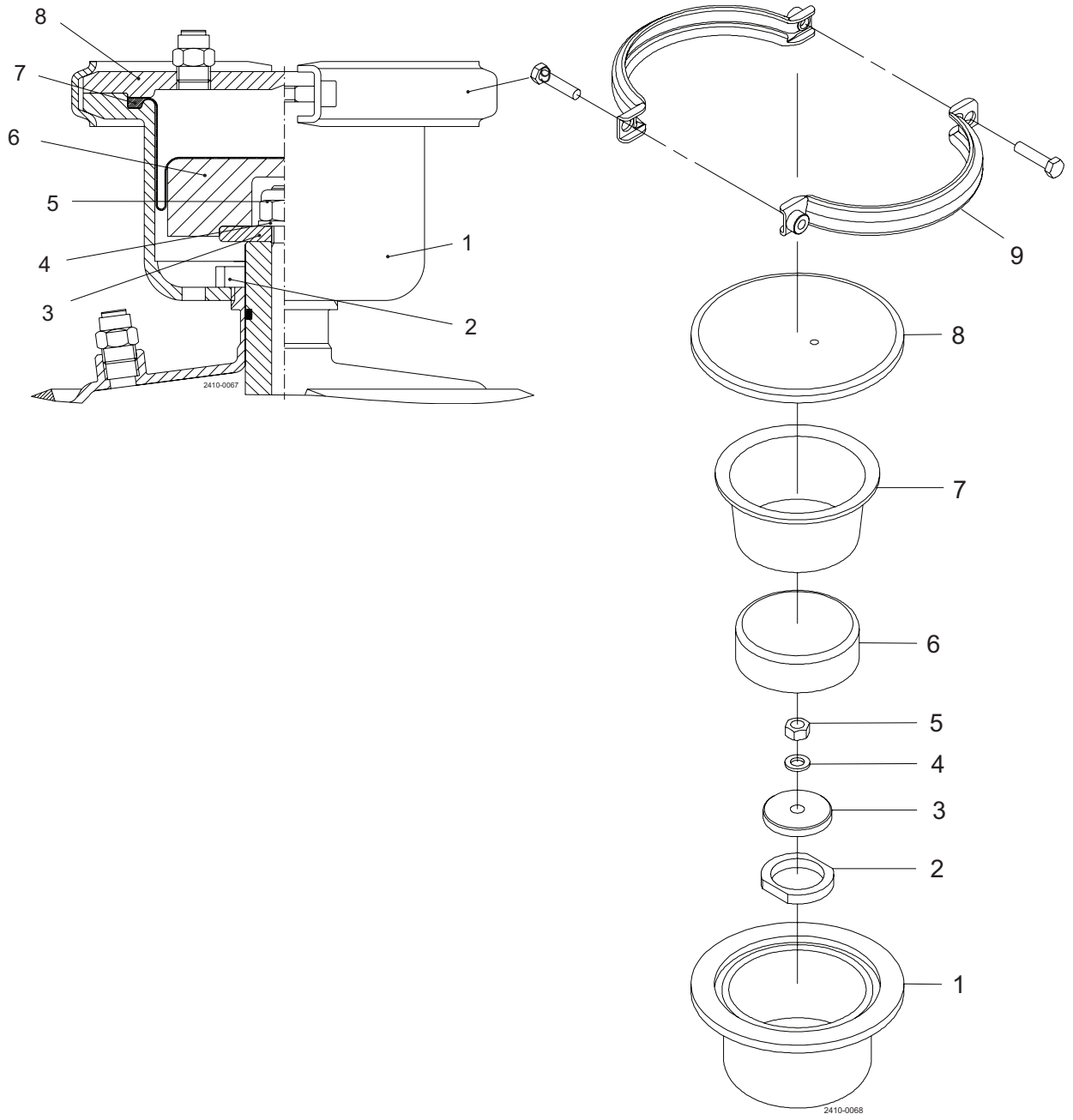
9.1 Alfa Laval CPM-I-D60





Pos	Qty	Denomination	Pos	Qty	Denomination
1	1	Nut	14+15	2	Clamps and screws (Period 9209-)
2	1	Washer	14	4	Clamp half (Period -9209)
3	1	Top	15	4	Screw (Period -9209)
5	1	Guide	16	2	Valve body seal ring
6	1	O-ring	17	1	Diaphragm, PTFE covered EPDM (std.) (product side)
7	1	Plug	18	1	Diaphragm
8	1	Seal ring	19	1	Cover
9	1	Inlet tube	20	12	Support sector
10	1	Valve body, lower	21	1	Outer ring
12	1	Valve body	22	1	Clamp set (Period 9310-)
13	2	Inner ring			

9.2 Booster



Pos.	Qty	Denomination	Pos.	Qty	Denomination
1	1	Booster housing	6	1	Booster piston
2	1	Lock nut	7	1	Diaphragm
3	1	Washer	8	1	Booster cover
4	1	Spring washer	9	1	Clamps and screws
5	1	Nut			