



Pressure Loading Valve 525

Operation Manual

Read this manual completely and keep it!
No warranty in case of damages caused by incorrect operation.

Imprint

**Pressure Loading Valve 525
Operation Manual**

Version 3.0

Publisher

ALLDOS Eichler GmbH
Reetzstraße 85 • 76327 Pfinztal (Söllingen)
Postfach 1160 • 76317 Pfinztal
Germany

Tel. +49 72 40 61-0 / Fax. +49 72 40 61-211
Mail: alldos.de@alldos.com
Internet: www.alldos.com

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Subject to change.

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1 General

1.1 Introduction

This operation manual contains all the information required for starting up and handling the described pressure loading valves.

If you require further information or if any problems arise, which are not discussed in detail in this operation manual, contact ALLDOS directly for the information needed.

1.2 Using this Paper

The headings **WARNING**, **CAUTION** and **NOTE** have the following meaning:



Warning

Danger of injuries and accidents!



Caution

Danger of incorrect operation or damage to the product!



Note

There is an exceptional feature.

1.3 Warranty

Warranty in accordance with our general terms of sale and delivery shall only be valid, if:

- the product is used according to the information within this paper,
- the product is not being opened or used improperly,
- maintenance and repair is implemented exclusively by authorized and qualified personnel,
- original spare parts are used for repairs.

The safety instructions specified in this document must be observed at all times!

2 Safety Instructions

The component has left the factory in a safe error-free state. In order to maintain this state and ensure safe operation, the user must observe the instructions and warning notes provided in this technical information.

If safe operation is no longer possible, the component must be shut down and secured against unintentional operation. This is the case:

- If the component is visibly damaged
- If the component no longer seems operational
- Following long periods of storage under unfavourable conditions

2.1 Application of the Product

The pressure loading valve described here is used to maintain the required counterpressure for the pump, if insufficient counterpressure is available in the system or open outflow is specified.



Warning

Other applications are not intended and are not permitted. ALLDOS Eichler GmbH accept no responsibility for damages caused by unintended use.

2.2 Obligations of the Operating Authority

The operating authority of the plant is responsible for

- instructing the operation personnel
- arranging regular maintenance

2.3 Averting Dangers



Warning

When dosing dangerous media, observe the corresponding safety precautions!



Warning

Please observe the chemical resistance of dosing media with regard to materials.



Warning

Wear protective gloves and glasses when executing work at the connections or lines!



Warning

***Only use the prescribed line types!
Repair only by authorized personnel!***

3 General description

3.1 Function

The pressure loading valve keeps the pump's backpressure constant. The valve opens and the liquid is dosed, if the pressure exceeds the opening pressure adjusted at the valve.

3.2 Ambient and Operating Conditions

Admissible storage temperature	20 °C to +50 °C
Admissible ambient temperature	0 °C to +40 °C (at an installation height of up to 1000 m above sea level)
Admissible humidity	rel. humidity: 70% at 40 °C, 90% at 35 °C

3.3 Admissible Media

Admissible Mediatemperaturer

	Pressure range
Material	until 10 bar
1.4571	-10 °C to 40 °C
PVC	0 °C to 40 °C
PP	0 °C to 40 °C
PVDF	-10 °C to 40 °C *



Warning

Pressure loading valves must not be used for abrasive or crystallizing media.



Warning

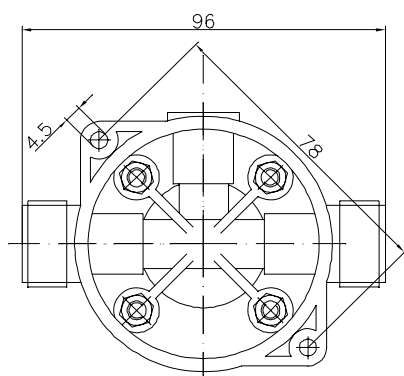
Pressure loading valves are not absolutely tight. When dosing dangerous substances take appropriate protective measures!

Additional information with regard to the medium, medium temperature and operating pressure is available on request.

4 Technical Data

4.1 Pressure Loading Valves DN 4 and DN 8

Order No.	Nominal width	Pressure release	Valve body	Gasket	Hose type	Pipe	Connection	Image
525-0565	4	3	PP	Viton	PE-SL4/6		G 5/8"	1
525-0565.1	4	3	PP	EPDM	PE-SL4/6		G 5/8"	1
525-0566.1	4	3	PVDF	PTFE		RO4/6"	G 5/8"	2
525-0567	4 8	3	PVC	Viton	PE-SL4/6 PVC-SL6/12	RO10/12"	G 5/8"	1
525-0567.1	4 8	3	PVC	EPDM	PE-SL4/6 PVC-SL6/12	RO10/12"	G 5/8"	1
525-0567.2	4 8	3	PVC	PTFE	PE-SL4/6 PVC-SL6/12	RO10/12"	G 5/8"	1
525-0570	4	3	1.4571			RO4/6"	G 1/4"	5
525-0573	4	3	PP	EPDM	PE-SL5/8		G 5/8"	1
525-0600	4	3	1.4571			RO4/6"	G 1/4"	4
525-0608	4	3	PTFE	Viton			GL 18"	-
525-3173	4 8	3	PP	Viton	PE-SL4/6 PE-SL6/9 PE-SL9/12		G 5/8"	1
525-3173.1	4 8	3	PP	EPDM	PE-SL4/6 PE-SL6/9 PE-SL9/12		G 5/8"	1
525-3174	4 8	3	PVC	Viton	PE-SL4/6 PE-SL6/9 PE-SL9/12 PVC-SL6/12	RO10/12"	G 5/8"	1
525-3174.1	4 8	3	PVC	EPDM	PE-SL4/6 PE-SL6/9 PE-SL9/12	RO10/12"	G 5/8"	1
525-0563	8	3	PP	EPDM	PE-SL9/12		G 5/8"	1
525-0568	8	3	PP	Viton		RO12/16"	G 5/8"	3
525-0568.1	8	3	PP	EPDM		RO12/16"	G 5/8"	3
525-0569.1	8	3	PVDF	PTFE		RO12/16"	G 5/8"	3
525-0571	8	3	1.4571			RO1/4"	G 1/4"	6
525-1565.1	8	3	PP	EPDM	PVC-SL6/12		G 5/8"	1
525-3177	8	3	PVDF	PTFE	PE-SL6/9		G 5/8"	1



Drilling scheme for Images 1-4

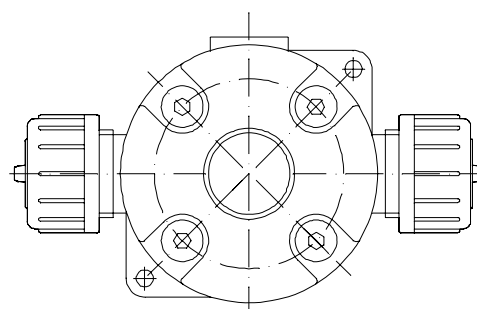


Image 1

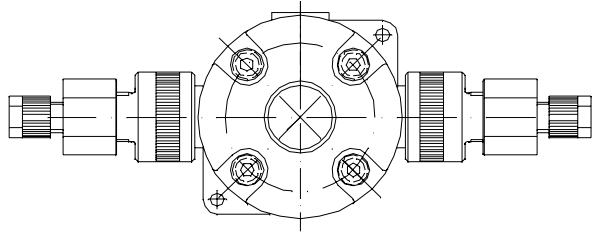


Image 2

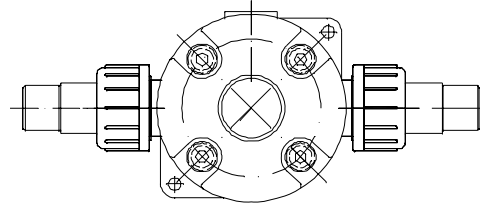


Image 3

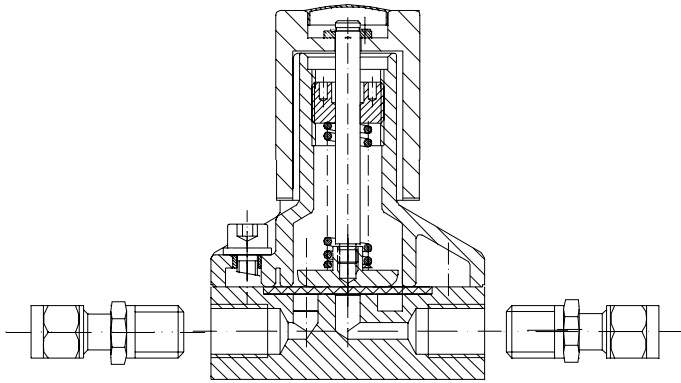
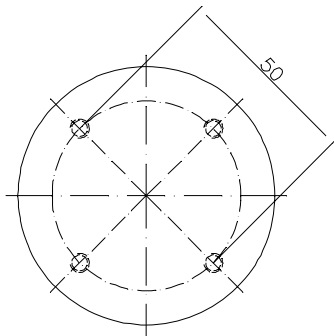


Image 4



Drilling scheme for Images 5 and 6

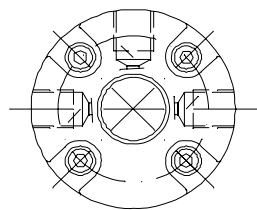


Image 6

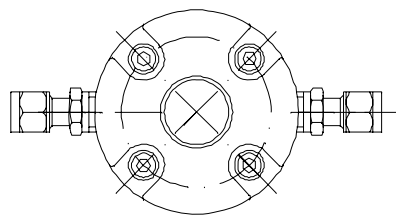
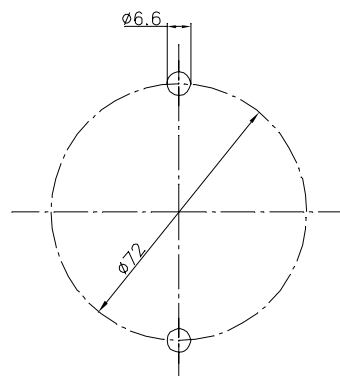


Image 5

4.2 Pressure Loading Valves DN 20

Order No.	Nominal width	Pressure release	Valve body	Gasket	L	Hose type	Pipe	Connection	Image
525-1113	20	3	PVC	Viton	149	PVC-SL13/20	RO20/25	G 1 1/4"	7
525-1113.01	20	3	PVC	Viton	149	PVC-SL19/27		G 1 1/4"	8
525-1113.1	20	3	PVC	EPDM	149	PVC-SL13/20	RO20/25	G 1 1/4"	7
525-1113.11	20	3	PVC	EPDM	149	PVC-SL19/27		G 1 1/4"	8
525-1113.21	20	3	PVC	PTFE	149	PVC-SL19/27		G 1 1/4"	8
525-1163	20	3	PP	Viton	152,5		RO20/25	G 1 1/4"	7
525-1163.01	20	3	PP	Viton	152,5	PVC-SL19/27		G 1 1/4"	8
525-1163.1	20	3	PP	EPDM	152,5		RO20/25	G 1 1/4"	7
525-1163.11	20	3	PP	EPDM	152,5	PVC-SL19/27		G 1 1/4"	8
525-1183.1	20	3	PVDF	PTFE	145,5		RO20/25	G 1 1/4"	7
525-2133	20	3	1.4571		-			G3/4	10
525-4113	20	3	PVC	Viton	149			3/4" NPT	9



Drilling scheme

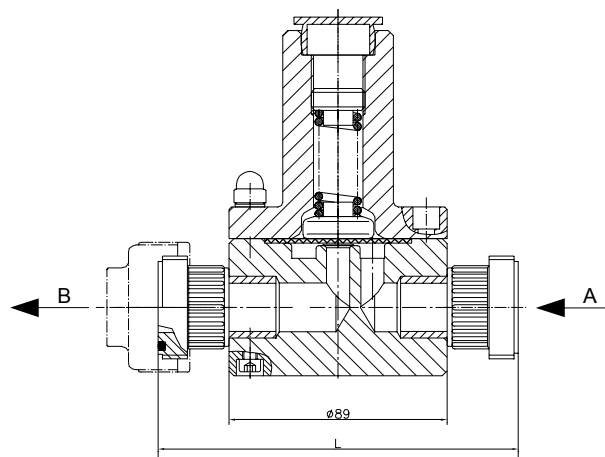


Image 7

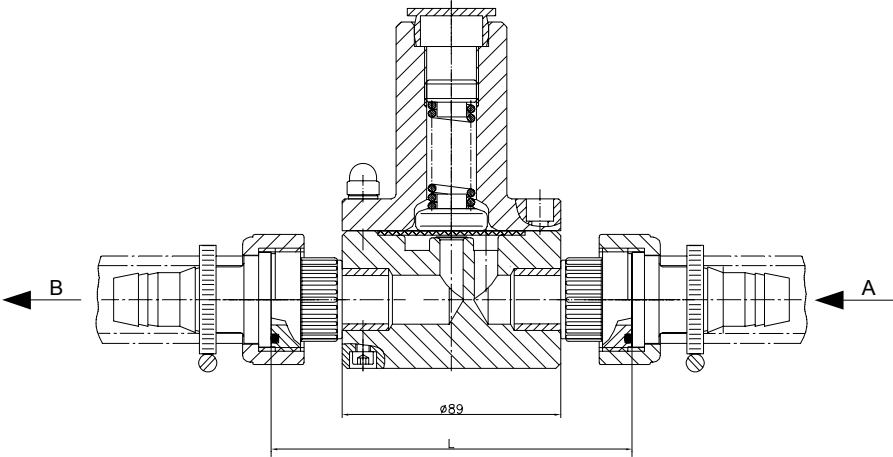


Image 8

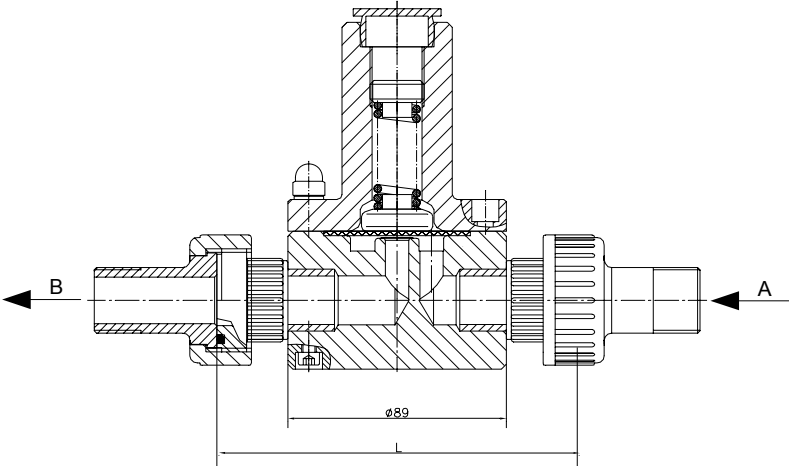


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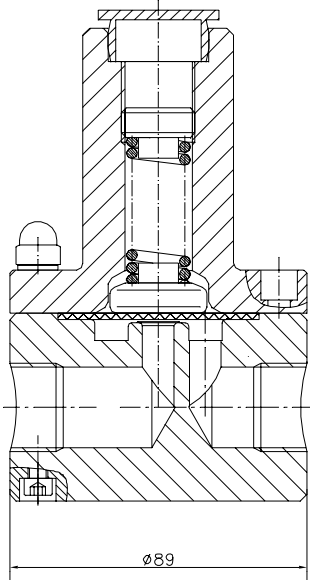
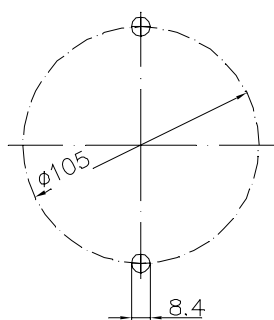


Image 10

4.3 Pressure Loading Valves DN 32

Order No.	Nominal width	Pressure release	Valve body	Gasket	L	Pipe	Connection	Image
525-1173	32	3	PP	Viton	229	RO32/40"	flange DN32	12
525-1173.01	32	3	PP	Viton	205	RO32/40"	G 2"	13
525-1173.1	32	3	PP	EPDM	229		flange DN32	12
525-1173.11	32	3	PP	EPDM	205	RO32/40"	G 2"	13
525-1223	32	3	PVC	Viton	205	RO32/40"	G 2"	11
525-1223.1	32	3	PVC	EPDM	205	RO32/40"	G 2"	11
525-1243	32	3	PVC	Viton	229		flange DN32	12
525-1243.1	32	3	PVC	EPDM	229		flange DN32	12
525-2233	32	3	1.4571		-		G 1 1/4"	14
525-2243	32	3	1.4571	PVC	?		flange DN32/G 1 1/4"	15
525-2403	32	3	PVDF	PTFE	229	RO32/40"	flange DN32	12

* With insertion section for pipe 32/40 in PP and also in PVDF



Drilling scheme

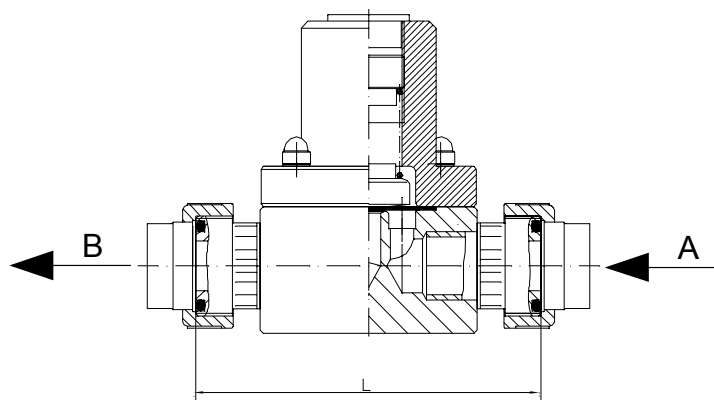


Image 11

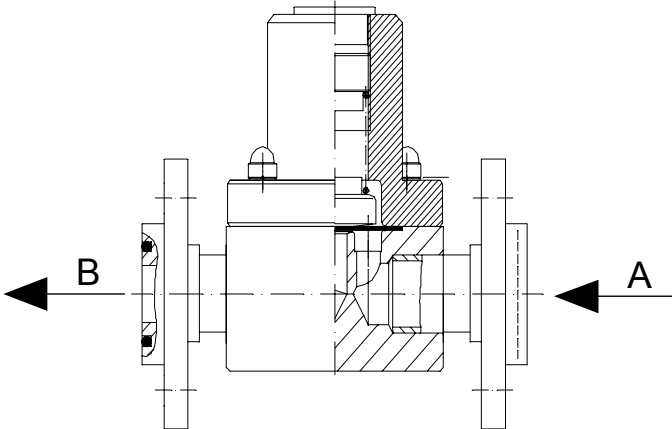


Image 12

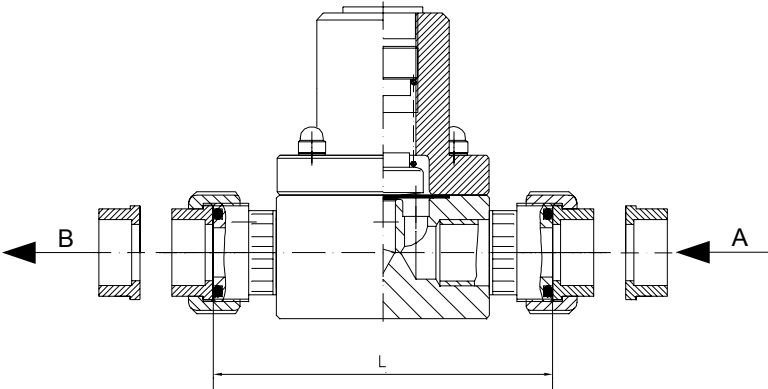


Image 13

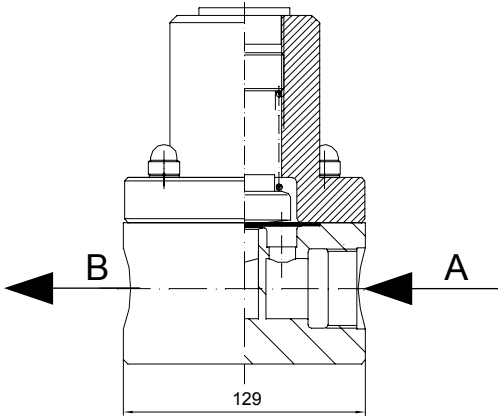


Image 14

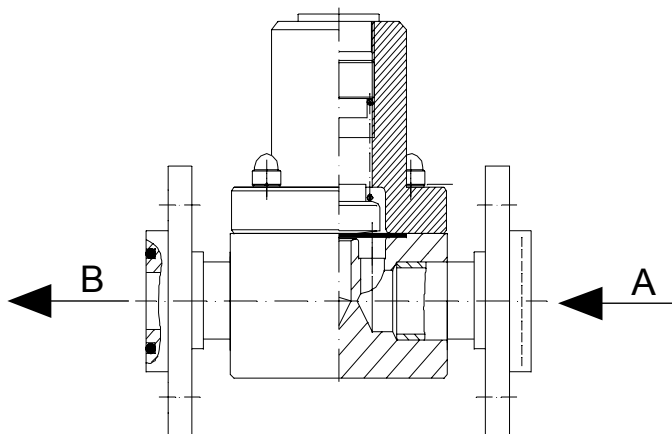
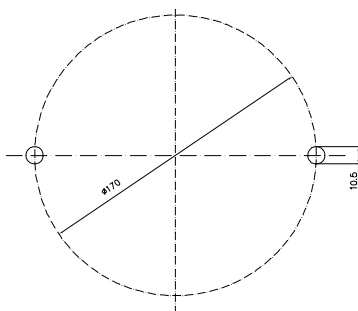


Image 15

4.4 Pressure Loading Valves DN 50 and DN 65

Order No.	Nominal width	Pressure release	Valve body	Gasket	L	Connection	Image
525-2363	50	2,2	PP	Viton	264	flange DN50	17
525-0610	65	1,5	PVC	Viton	266	flange DN65	17
525-0611	65	1,5	PVC	EPDM	266	flange DN65	17
525-0612	65	1,5	PP	Viton	326	flange DN65	17
525-0613	65	1,5	1.4571	PVC-WEICH	-	flange DN65	16



Drilling scheme for Image 16

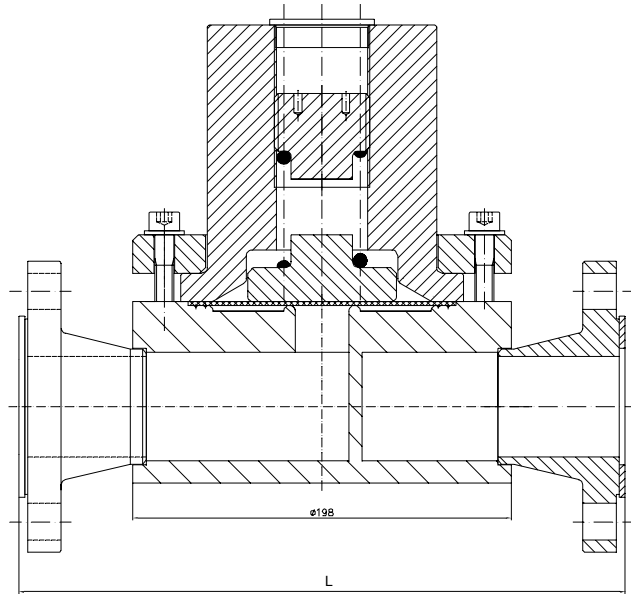


Image 16

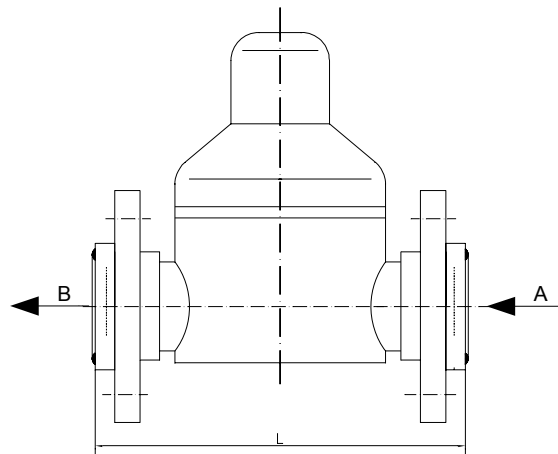


Image 17

5 Installation

 **Warning**

The installation must only be carried out by authorized specialists!

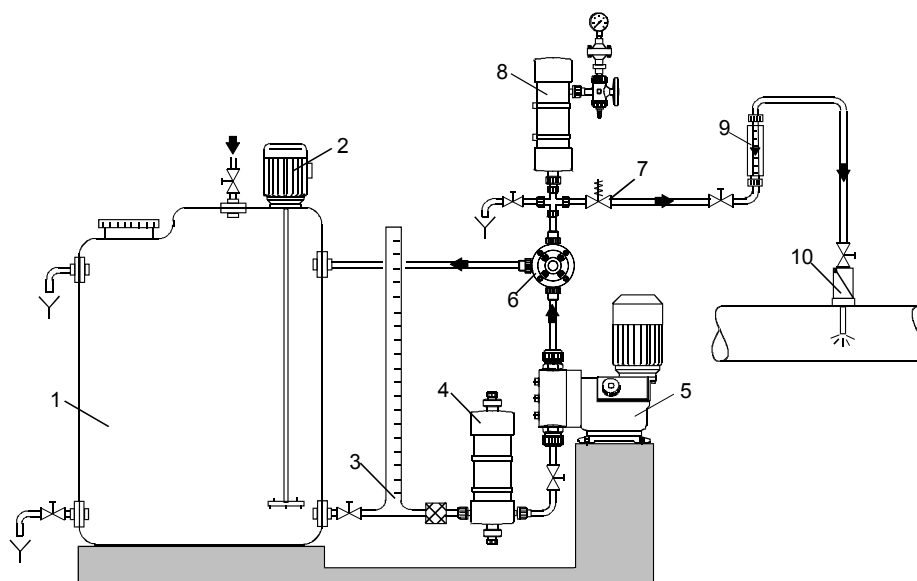
 **Warning**

When dosing dangerous media, always refer to the corresponding safety data sheets!

 **Warning**

Wear protective gloves and glasses when executing work at the connections or lines!

5.1 Picture of optimal installation:



- 1 Dosing tank
- 2 Electric agitator
- 3 Extraction device
- 4 Suction pulsation damper
- 5 Dosing pump
- 6 Overflow valve
- 7 Pressure loading valve
- 8 Pulsation damper
- 9 Measuring glass
- 10 Injection unit

5.2 Connections

The pressure loading valves have an input (A) and an output on the pressure side (B). They are installed in the pressure line.

Pressure loading valves DN4 and DN8 can also be mounted directly on the pressure valve for the dosing pump with an optional adapter (D) (for the adapter for pump installation, see section 'spare parts and accessories').



Warning

During installation, observe the flow direction of the dosing line. (Direction arrow on valve housing)



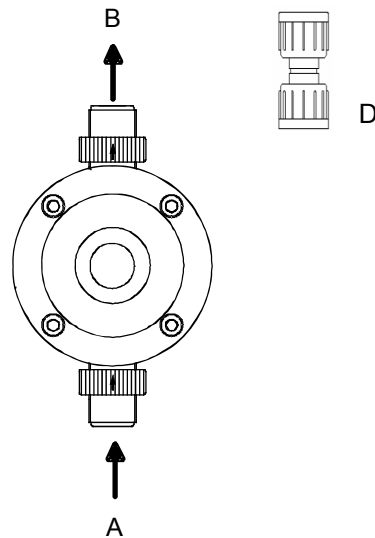
Caution

When using a pressure loading valve in conjunction with a pulsation damper, the pressure loading valve must be installed after the pulsation damper.



Note

***It is recommended that the pressure loading valve is installed directly in front of the addition point in the dosing line.
For direct pump installation, the line connected to the injection unit should be as short as possible.***



For line installation

1. Connect the pressure line from the dosing head to the input (A).
2. Connect the outgoing pressure line to the output on the pressure side (B).

For installation directly on the pump

1. Remove connection from the input (A).
2. Screw the adapter (D) for pump installation onto the input (A) and onto the pressure valve for the pump.
3. Connect the outgoing pressure line to the output on the pressure side (B).



Warning

Danger of injuries! Never operate the pump if the line is not correctly connected to the pressure loading valve.

4. After 48 operating hours, tighten the screws on the upper part of the valve.
Max. torque: :

DN4	2Nm
DN8	
DN20	5Nm

6 Setting of Opening Pressure

6.1 General

The opening pressure can only be set if a manometer is installed in the system between the pump and the pressure loading valve.



Warning

Settings on the pressure loading valve must only be carried out by authorized specialists!

The opening pressure of the pressure loading valve is set in the factory to the value specified in the technical data. The opening pressure during operation depends on various factors, e.g. the flow, the stroke frequency of the pump, or the back-pressure. If an exact setting is required, the pressure loading valve must be adapted to the local conditions.

The opening pressure must only be set to values **below** the maximum permissible operating pressure.

**Warning**

Danger of injury! Never set the opening pressure higher than the maximum permissible operating pressure of the dosing system and dosing pump.

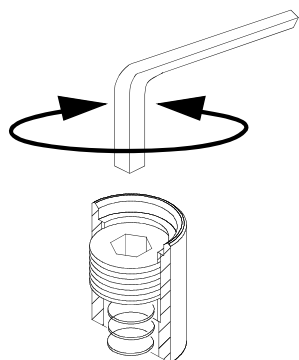
**Warning**

When dosing dangerous media, always refer to the corresponding safety data sheets! Wear protective clothing (goggles, gloves) when working on the connections and lines!

**Caution**

The pressure loading valve does not function as a shut-off valve. Therefore, the adjusting screw must not be tightened too far.

6.2 Setting Instructions for Opening Pressure



Proceed as follows if the factory-set pressure is to be changed:

With the pump running:

1. Remove the cap from the top part of the pressure loading valve.
2. Read the current opening pressure on the manometer.
3. For DN4 and DN8 use a hexagon wrench, for DN20 - DN65 use a pair of needle-nose pliers:
 - in the clockwise direction to increase the pressure
 - in the counterclockwise direction to reduce the pressure until the desired opening pressure is set.
4. Attach the cap again.



7 Possible Faults

Fault	Cause	Elimination
pressure loading valve produces no backpressure	pressure loading valve set incorrectly (too low)	Set pressure loading valve to a higher opening pressure
	Diaphragm faulty	Replace diaphragm
	Contamination	Clean pressure loading valve

8 Maintenance



Warning

When dosing dangerous media, always refer to the corresponding safety data sheets!
Wear protective clothing (goggles, gloves) when working on the connections and lines!
Maintenance must only be carried out by authorized specialists!

8.1 Intervals for Cleaning and Maintenance

- at least every 12 months or after 8000 operating hours or
- should faults occur.

Clean the pressure loading valve, and replace the diaphragm and O-rings if necessary.

Spare parts-> see section 'spare parts and accessories'

8.2 Replacing the Diaphragm

1. Shut down the dosing system.
2. Make it impossible for a return flow or overpressure to occur.
3. Loosen the 4 screws on the top part of the pressure loading valve.
4. Remove top part of pressure loading valve.
5. Remove the diaphragm.
6. Insert new diaphragm.
7. Return top part of pressure loading valve and tighten screws diagonally.
Max. torque: :

DN4	2Nm
DN8	
DN20	5Nm

8. Start up the dosing system again.
9. Tighten the screws on the top part of the pressure loading valve again after 48 hours of operation.
Max. torque: :

DN4	2Nm
DN8	
DN20	5Nm

9 Spare Parts and Accessories

9.1 Adapter for installation directly on the pump

Order No.	Nominal width	Material	Connection (pump-valve)
529-057	DN 4	PVC	3/8" an 5/8"
529-058	DN 4	1.4571	3/8" an 1/4"
529-062	DN 4	PP	3/8" an 5/8"
529-064	DN 4	PVDF	3/8" an 5/8"
529-059	DN 8	1.4571	5/8" an 1/4"
529-061	DN 8	PVC	5/8" an 5/8"
529-063	DN 8	PP	5/8" an 5/8"
529-065	DN 8	PVDF	5/8" an 5/8"

* not suitable for pumps with Plus³ System

9.2 Set of counter flanges for Pressure Loading Valves DN 32 and DN 65

Order No.	Nominal width	Material	Description
529-412	DN 32	V4A	Consisting of lapped flange, headed bush, screws, collars and nuts
529-417	DN 32	PVC	
529-420	DN 32	PVDF	
529-443	DN 65	PVC	
529-444	DN 65	PP	
529-421	DN 32	PP	Consisting of welding neck flange, flat gasket, screws, collars and nuts
529-445	DN 65	V4A	Consisting of welding neck flange, screws, collars and nuts

9.3 Spare Parts for Pressure Loading Valves

Spare parts - Order No.

Pressure loading valve	Nominal width	Diaphragm	O-rings	Amount	Pressure springr	Adjusting screw
525-0565	4	10.6243-401	52.105-2	2	10.6247	10.6490-400
525-0565.1	4	10.6243-401	52.105-1	2	10.6247	10.6490-400
525-0566.1	4	10.6243-401	52.344	2	10.6247	10.6490-400
525-0567	4	10.6243-401	52.105-2	2	10.6247	10.6490-400
525-0567.1	4	10.6243-401	52.105-1	2	10.6247	10.6490-400
525-0567.2	4	10.6243-401	52.344	2	10.6247	10.6490-400
525-0570	4	10.6243-401	-	-	10.6251	10.6490-400
525-0573	4	10.6243-401	52.105-1	2	10.6247	10.6490-400
525-0600	4	10.6243-401	-	2	10.6247	10.6490-401
525-0608	4	10.6243-401	52.183	2	10.6247	10.6490-401
525-3173	4	10.6243-401	52.105-2	2	10.6247	10.6490-400
525-3173.1	4	10.6243-401	52.105-1	2	10.6247	10.6490-400
525-3174	4	10.6243-401	52.150-2	2	10.6247	10.6490-400
525-3174.1	4	10.6243-401	52.105-1	2	10.6247	10.6490-400
525-0563	4	10.6243-401	52.105-1	2	10.6247	10.6490-400
525-0568	8	10.6243-401	52.105-2	2	10.6247	10.6490-400
525-0569.1	8	10.6243-401	52.344	2	10.6247	10.6490-400
525-0571	8	10.6243-401	-	-	10.6251	10.6490-400
525-1565.1	8	10.6243-401	52.105-1	2	10.6251	10.6490-400
525-3177	8	10.6243-401	52.344	2	10.6251	10.6490-400
525-0568.1	10	10.6243-401	52.105-1	2	10.2663	10.6490-400
525-1113	20	10.6243-402	52.141	2	10.6251	10.2617-41
525-1113.01	20	10.6243-402	52.141	2	10.6251	10.2617-41
525-1113.1	20	10.6243-402	52.141-1	2	10.6251	10.2617-41
525-1113.11	20	10.6243-402	52.141-1	2	10.6251	10.2617-41
525-1113.21	20	10.6243-402	52.141-2	2	10.6251	10.2617-41
525-1163	20	10.6243-402	52.141	2	10.6251	10.2617-41
525-1163.01	20	10.6243-402	52.141	2	10.6251	10.2617-41
525-1163.1	20	10.6243-402	52.141-1	2	10.6251	10.2617-41
525-1163.11	20	10.6243-402	52.141-1	2	10.6251	10.2617-41
525-1183.1	20	10.6243-402	52.141-2	2	10.6251	10.2617-41
525-2133	20	10.6243-402	-	-	10.6251	10.2617-41
525-4113	20	10.6243-402	52.141	2	10.6251	10.2617-41
525-1173	32	10.6243-403	52.202	2	10.2663	10.2664-41
525-1173.01	32	10.6243-402	52.202	2	10.2663	10.2664-41
525-1173.1	32	10.6243-402	52.261	2	10.2663	10.2664-41

Pressure loading valve	Nominal width	Diaphragm	O-rings	Amount	Pressure springr	Adjusting screw
525-1173.11	32	10.6243-402	52.261	2	10.2663	10.2664-41
525-1223	32	10.6243-402	52.154-2	2	10.2663	10.2664-41
525-1223.1	32	10.6243-402	52.393	2	10.2663	10.2664-41
525-1243	32	10.6243-402	52.202	2	10.2663	10.2664-41
525-1243.1	32	10.6243-402	52.261	2	10.2663	10.2664-41
525-2233	32	10.6243-402	-	1	10.2663	10.2664-41
525-2243	32	10.6243-402	-	1	10.2663	10.2664-41
525-2403	32	10.6243-402	52.422	2	10.2663	10.2664-41
525-0610	65	-	52.260	2	-	-
525-0611	65	-	52.259	2	-	-
525-0612	65	-	52.260	2	-	-
525-0613	65	10.1572-41	54.020-4	1	10.3361	10.3349-402

