



**KIESELMANN**  
FLUID PROCESS GROUP

## Operating instructions

- Translation of the original -

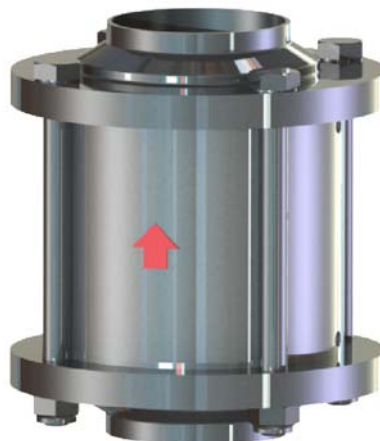
**5093 xxx 000-xxx**

### Check valve

DN25 - DN100

EPDM O-Ring-design

Intermediate flanged with welding ends



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## 1. List of contents

1.	List of contents .....	1
2.	Information for your safety.....	2
3.	Marking of security instructions in the operating manual .....	2
4.	Safety instructions .....	3
4.1	Field of application .....	3
4.2	General safety instructions .....	3
4.3	General notes .....	3
5.	Function.....	3
5.1	Description of function .....	3
6.	Installation informations.....	3
6.1	Installation instructions.....	3
6.2	Welding guidelines.....	3
7.	Maintenance .....	4
7.1	Maintenance .....	4
7.2	Cleaning.....	4
8.	Technical Data .....	4
9.	Disassembly and assembly.....	5
9.1	Disassembly.....	5
9.2	Assembly .....	5
10.	Drawings .....	5
11.	Dimensions.....	6
12.	Wearing parts .....	6
12.1	O-Ring-type EPDM .....	6

## 2. Information for your safety

We are pleased that you have decided for a high-class KIESELMANN product. With correct application and adequate maintenance, our products provide long time and reliable operation.




Before installation and initiation, please carefully read this instruction manual and the security advices contained in it. This guarantees reliable and safe operation of this product and your plant respectively. Please note that an incorrect application of the process components may lead to great material damages and personal injury.

**In case of damages caused by non observance of this instruction manual, incorrect initiation, handling or external interference, guarantee and warranty will lapse!**

Our products are produced, mounted and tested with high diligence. However, if there is still a reason for complaint, we will naturally try to give you entire satisfaction within the scope of our warranty. We will be at your disposal also after expiration of the warranty. In addition, you will also find all necessary instructions and spare part data for maintenance in this instruction manual. If you don't want to carry out the maintenance by yourself, our KIESELMANN service team will naturally be at your disposal.

## 3. Marking of security instructions in the operating manual

Hints are available in the chapter "safety instructions" or directly before the respective operation instruction. The hints are highlighted with a danger symbol and a signal word. Texts beside these symbols have to be read and adhered to by all means. Please continue with the text and with the handling at the valve only afterwards.

Symbol	Signal word	Meaning
	<b>DANGER</b>	Imminent danger which may cause severe personal injury or death.
	<b>ATTENTION</b>	Dangerous situation which may cause slight personal injury or material damages.
	<b>NOTE</b>	Marks application hints and other information which is particularly useful.

## 4. Safety instructions

### 4.1 Field of application

The check valve is suitable for use as a reflux - check valve for gas and fluid in plants in the food and beverage, in pharmaceutical, biotechnological and chemical industries.



#### ATTENTION

- To avoid danger and damage, the fitting must be used in accordance with the safety instructions and technical data contained in the operating instructions.

### 4.2 General safety instructions



#### DANGER

- Dismantling the valve or valve assemblies from the plant can cause injuries from fluids or gases flowing out. Dismantle the valve or valve assembly only when the plant has been rendered pressure-less and free of liquid and gas.

### 4.3 General notes



#### NOTE

All data are in line with the current state of development. Subject to change as a result of technical progress.

## 5. Function

### 5.1 Description of function

The valve open against spring power with flow pressure > X bar in flow direction "A" (see Tab.).  
The valve close added by spring power with flow pressure > 0,1 bar in flow direction "B".

	Nominal Diameter DN						
	25	32	40	50	65	80	100
Flow pressure	0,13	0,10	0,14	0,15	0,16	0,16	0,07



#### NOTE

A pressure from min 0,8 bar is necessary for a leakproof shut off in flow direction "B".

## 6. Installation informations

### 6.1 Installation instructions

#### Fitting position

After definition of the flow direction 'opening or close' is the installation position arbitrary.

### 6.2 Welding guidelines

Sealing elements integrated in weld components must generally be removed prior to welding. To prevent damage, welding should be undertaken by certified personnel (EN287). Use the TIG (tungsten inert gas) welding process.



#### NOTE

Impurities can cause damage to the seals.  
Clean inside areas prior to assembly.

## 7. Maintenance

### 7.1 Maintenance

The maintenance intervals depend on the operating conditions "temperature, temperature-intervals, medium, cleaning medium, pressure and opening frequency". We recommend replacing the seals every 3 years. The user, however should establish appropriate maintenance intervals according to the condition of the seals.



#### NOTE

EPDM; Viton; K-flex  
NBR; HNBR; Silicone  
Teflon



#### Lubricant recommendation

Klüber Paraliq GTE\*  
Klüber Paraliq GB 363\*  
Teflon grease Interflon\*

*\*) It is only permitted to use approved lubricants, if the respective fitting is used for the production of food or drink. Please observe the relevant safety data sheets of the manufacturers of lubricants.*

### 7.2 Cleaning

The cleaning of the valve takes place during the pipe cleaning.

## 8. Technical Data

<b>Valve size:</b>	DN 10 - DN 100
<b>Connections:</b>	<ul style="list-style-type: none"><li>• Welding flange DIN11850</li><li>• Male part DIN11851</li></ul>
<b>Temperature range:</b>	<ul style="list-style-type: none"><li>• Product temperature: +0° bis +95°C medium-dependent</li><li>• Sterilization temperature: +140°C (SIP 30 min)</li></ul>
<b>Operating pressure:</b>	10 bar
<b>Vacuum:</b>	1,5 - 10 <sup>-6</sup> mbar x <sup>L</sup> / <sub>S</sub> (test pressure 0,5mbar)
<b>Material in product contact:</b> <i>(depending on the version)</i>	Stainless steel: <ul style="list-style-type: none"><li>• 1.4301 / AISI304</li><li>• 1.4404 / AISI316L</li></ul>
	Surfaces: <ul style="list-style-type: none"><li>• Ra &lt; 0,8µm e-polished</li></ul>
	Seal material: <ul style="list-style-type: none"><li>• EPDM (FDA)</li><li>• k-flex (FDA)</li></ul>

## 9. Disassembly and assembly

### 9.1 Disassembly

see Fig. 1 /page 5

- Unscrew the nuts (9).
- Remove axially the screws / threat bolts (8).
- Dismantle housing (11) and cramp it axially in a vise.
- Unscrew the headless pin (10).



#### NOTE

The tightly seats (3) sit close by feather tension to the vise chop. Open the vise and the spring is thereby relaxed.

- Unscrew the union nuts at both ends and dismantle valve.
- Take all parts out of out of the housing (11).
- Dismantle the O-Rings (4) and (7).

### 9.2 Assembly

- Thoroughly clean and slightly lubricate mounting areas and running surfaces. (see "7.1 Maintenance" on page 4).
- Assemble in reverse order.



#### NOTE

In part by alternating sides, push and roll the O-Ring (7) into the groove with a round component.

- Check the valve function.

## 10. Drawings

- 1) Flange
- 2) Seal
- 3) Tightly seat
- 4) O-Ring
- 5) Guidance
- 6) Pressure spring
- 7) O-Ring
- 8) Hexagon nut self-locking
- 9) Screw / Threat bolt
- 10) Headless pin
- 11) Housing
- 12) Plate

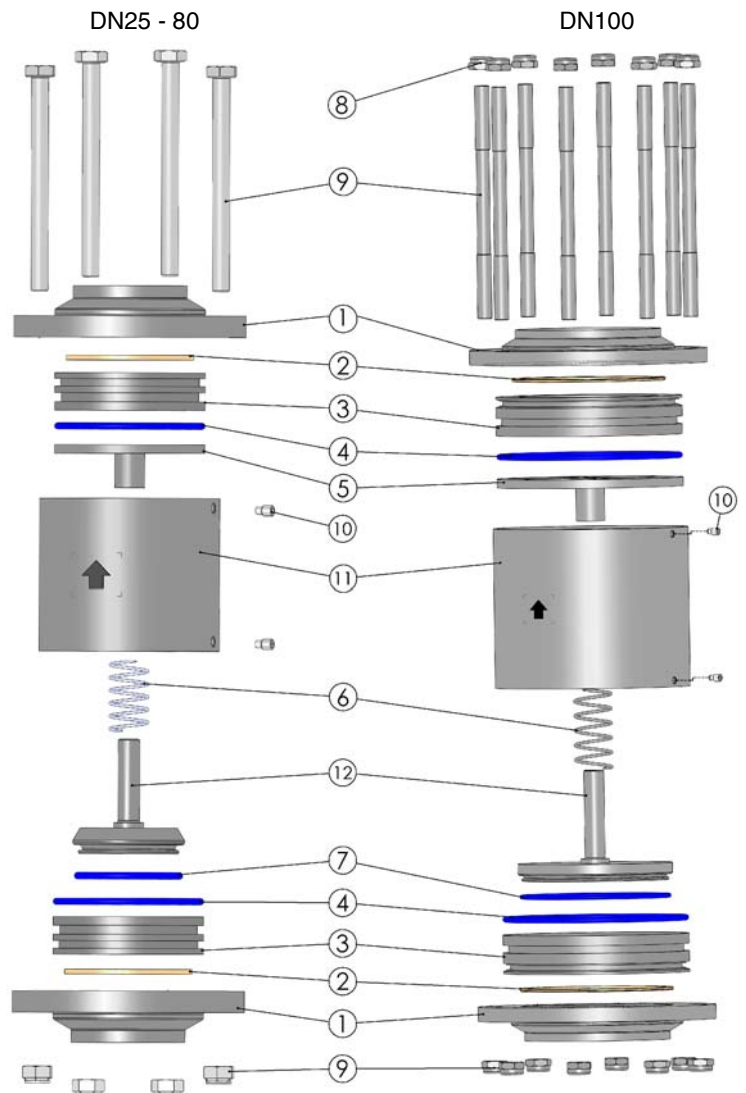


Fig. 1

Check valve Type: 5093xxx000-xxx

## 11. Dimensions

DN	D1	D2	L	X
25	29x1,5	80	104	50
32	35x1,5	86	104	51
40	41x1,5	92	113	59
50	53x1,5	108	119	71
65	70x2	130	127	79
80	85x2	146	145	96
100	104x2	166	159	111

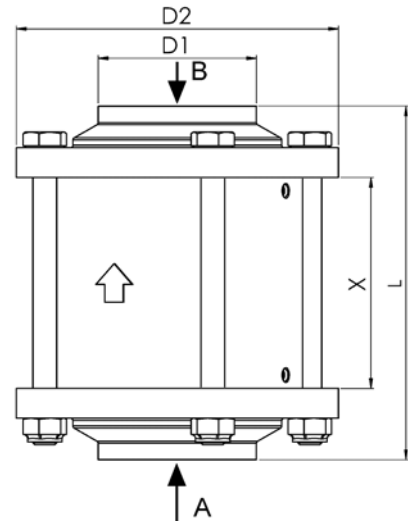


Fig. 2

## 12. Wearing parts

### 12.1 O-Ring-type EPDM

Seal kit EPDM: O-Ring - type: 5095 xxx 029-054  
 Gasket seal - type: 5095 xxx 000-054  
 (xxx = Nominal diameter DN e.g. 5095 050 029-054)

DN	Spring Item. 6	Seal k-flex Item. 2	O-Ring Item. 4	Valve plate O-Ring EPDM Item. 7	Valve plate gasket seal EPDM (design up to 09/2010)
25	8150 117 060-031	2353 035 026-114	2304 031 035-159	2304 020 030-170	2355 027 004-054
32	8150 117 060-031	2353 041 032-114	2304 041 035-159	2304 024 035-170	2355 032 004-054
40	8150 181 000-031	2353 047 038-114	2304 047 025-159	2304 028 035-170	2355 028 005-054
50	8150 182 000-031	2353 059 050-114	2304 062 035-159	2304 041 035-170	2355 049 005-054
65	8150 209 000-031	2353 076 066-114	2304 085 040-170	2304 057 035-170	2355 066 005-054
80	8150 236 000-031	2353 090 081-114	2304 100 040-159	2304 069 035-170	2355 079 055-054
100	8150 236 000-031	2353 109 100-114	2304 100 050-159	2304 079 035-159	2355 103 008-054