KIESELMANN
FLUID PROCESS GROUP

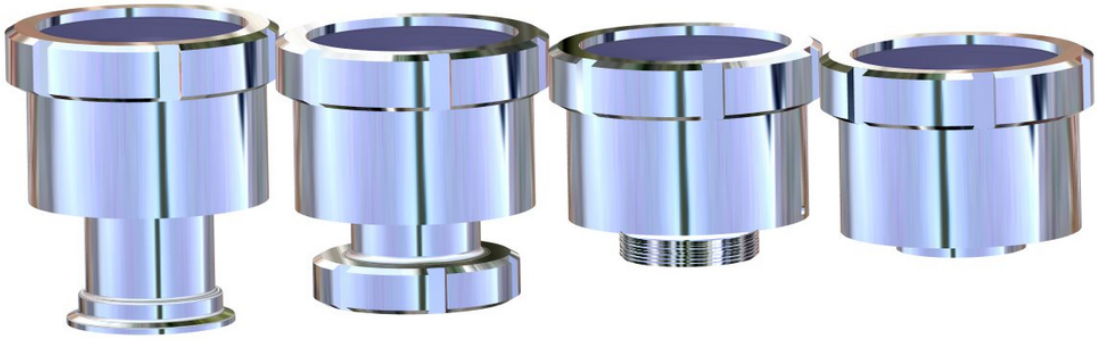
Translation of the original

Operating Instructions

Vacuum valves

Type 6138
Type 6139

spring loaded



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1 General informations

1.1 Informations 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.

1.2 Marking of security instructions

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
	DANGER	Imminent danger which will result severe personal injury or death.
	WARNING	Imminent danger which may result severe personal injury or death.
	CAUTION	Dangerous situation which may cause slight personal injury or material damages.
	NOTICE	An harmful situation which may result in damages of the product itself or of adjacent vicinity.
	INFORMATION	Marks application hints and other information which is particularly useful.

1.3 General designated use

The fitting is designed exclusively for the purposes described below. Using the fitting for purposes other than those mentioned is considered contrary to its designated use. KIESELMANN cannot be held liable for any damage resulting from such use. The risk of such misuse lies entirely with the user. The prerequisite for the reliable and safe operation of the fitting is proper transportation and storage as well as competent installation and assembly. Operating the fitting within the limits of its designated use also involves observing the operating, inspection and maintenance instructions.

1.4 Personnel

Personnel entrusted with the operation and maintenance of the tank safety system must have the suitable qualification to carry out their tasks. They must be informed about possible dangers and must understand and observe the safety instructions given in the relevant manual. Only allow qualified personnel to make electrical connections.

1.5 Modifications, spare parts, accessories

Unauthorized modifications, additions or conversions which affect the safety of the fitting are not permitted. Safety devices must not be bypassed, removed or made inactive. Only use original spare parts and accessories recommended by the manufacturer.

1.6 General instructions

The user is obliged to operate the fitting only when it is in good working order. In addition to the instructions given in the operating manual, please observe the relevant accident prevention regulations, generally accepted safety regulations, regulations effective in the country of installation, working and safety instructions effective in the user's plant.

2 Safety instructions

2.1 Intended use

This vakuum valve is used to prevent underpressure in tanks and vessels in plants of the food and drink industry, pharmaceutical and chemical industries as well as in biotechnology.

2.2 General notes



NOTICE - observe the operating instructions

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



NOTICE

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

2.3 General safety instructions



⚠ WARNING

Risk of injury by outflowing medium

Dismantling the valve or valve assemblies from the plant can cause injuries.

- Medias flowing through the leakage drain outlet are to be drained off without splashing into a discharge arrangement.
- Carry the disassembling only if when the plant has been rendered pressure-less and free of liquid and gas.



⚠ CAUTION

Malfunction due to contamination

Internal or external dirt may impair the function of the fitting or the safety equipment.

➢ Therefore the fitting must be operated in a way that protects it from external influences.

- The fitting must be cleaned internal and external at regular intervals.
- The fitting must be maintained at regular intervals.
- The fitting must be checked for its function at regular intervals.

3 Delivery, transport and storage

3.1 Delivery

- Immediately after receipt check the delivery for completeness and transport damages.
- Remove the packaging from the product.
- Retain packaging material, or expose of according to local regulations.

3.2 Transport



⚠ CAUTION

Risk of injury and damage to the product

During the transport the generally acknowledged rules of technology, the national accident prevention regulations and company internal work and safety regulations must be observed.

3.3 Storage



NOTICE

Damage to the product due to improper storage!

Observe storage instructions

avoid a prolonged storage



INFORMATION

Recommendation for longer storage

We recommend regularly checking the product and the prevailing storage conditions during long storage times.

- To avoid damage to seals and bearings,
  - products up to DN 125 / OD 5 inch should be stored horizontally for maximum 6 months.
  - products larger than DN 125 / 5 inch, should be stored in the upright position with the actuator on top.
- Don't store any objects on the products.
- Protect the products for wetness, dust and dirt.
- The product should be stored in a dry and well ventilated room at a constant temperature (optimal indoor temperature: 25 C ±5 ; indoor humidity data 60% ±5%).
- Protect seals, bearings and plastic parts for UV light and ozone.

4 Function and operation

4.1 Description of function

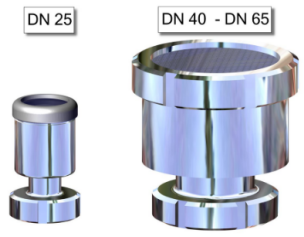
The function of the vacuum valve is to prevent impermissible pressure shortfalls (≤ 1 bar absolute pressure), in tanks and containers, which can result in damage. At underpressure, the valve opens to the atmosphere. The pressure in the tank is brought to the atmospheric pressure by the inflowing air. When the pressures become equal, the valve closes by the force of its weight without any external energy. The flow capacities referred to the relevant underpressure are shown in the capitel Characteristic curves.

4.2 Commissioning, service and maintenance

4.2.1 Commissioning

4.2.1.1 Installation instructions

- The fitting is generally install vertical, as shown in the picture.



4.2.1.2 General 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 (EN ISO 9606-1). Use the TIG (Tungsten Inert Gas) welding process.

⚠ CAUTION

Damage and injuries due to high temperature supply

To avoid a distortion of the components, all welding parts must be welded to stress-relieved.

Allow all components to cool before assembling.

NOTICE

Damage due to impurities

Impurities can cause damage to the seals and seals area.

Clean inside areas prior to assembly.

4.2.1.3 Use in EX area

For valves or plants/installations that are operated in the ATEX area, sufficient bonding (grounding) must be ensured. (see e.g. ATEX Directives EC; UKSI 696:2019-Schedule 25)

4.2.2 Service

RECOMMENDATION

Replacement of seals

To achieve optimal maintenance cycles, the following points must be observed!

- When replacement of seals, all product-contacting seals should be replaced.
- Only original spare parts may be installed.

Maintenance interval

The maintenance intervals depend on the operating conditions "temperature, temperature-intervals, medium, cleaning medium, pressure and opening frequency". We recommend replacing the seals 1-year cycle. The user, however should establish appropriate maintenance intervals according to the condition of the seals.

Lubricant recommendation

	EPDM; HNBR; NBR; PTFE; FKM; k-flex	-	Klüber Paraliq GTE703*
	Silicone	-	Klüber Sintheso pro AA2*
	Thread	-	Interflon Food*

*) 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.

4.2.3 Cleaning

A complete cleaning of all the parts that have come in contact with the product is only possible in the dismantled state.

The cleaning of the external surfaces must be performed at regular intervals. The cleaning cycles are to be defined by the user.

5 Technical data

5.1 Vacuum valves 6138 - 6139

Model	Vacuum valve • spring loaded
Valve size	DN25 - DN65
Connection	• Weld-on end DIN EN 10357 • Thread (G) DIN EN ISO 228 • Liner/nut (K/M) DIN 11581 • Clamp connection (Cl) DIN 32676
Temperature range	Operating temperature: +0° to +85°C (medium dependent)

Material: (in product contact)	stainless steel:	1.4301 / AISI 304
	Surface:	Ra < 0,8µm mat finish
	Sealing material:	• EPDM • NBR • Silicone •

Operating pressure		bar(g)	Plate PTFE	Plate POM
	Seal	Silicone/NBR	3	6
		NBR	3	10
		EPDM	3	10

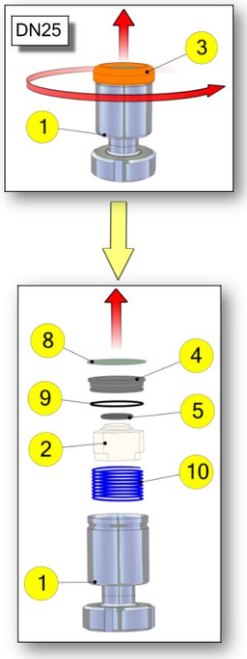
6 Disassembly and assembly

6.1 Disassembly

Disassembly

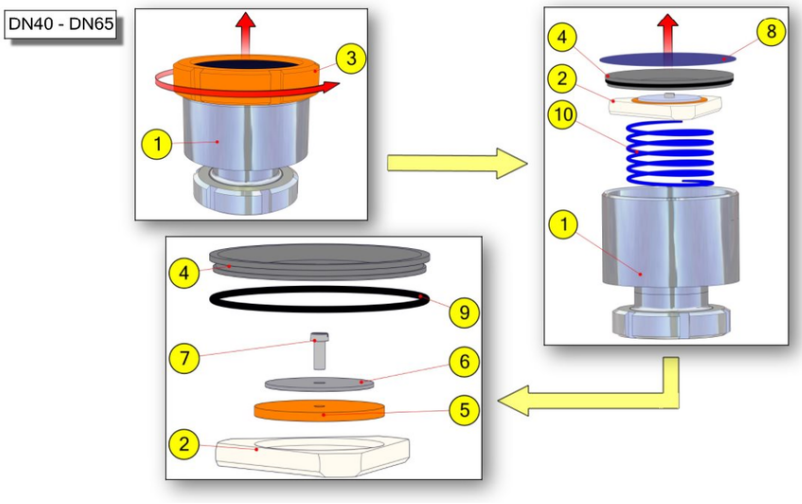
DN 25

- Unscrew cap (3).
- Develop the wire-cloth (8), the tightly seat (4),plate (2) and spring (10) from the housing (1).
- Remove the O-rings (5) and (9).



DN40 - DN65

- Unscrew the slotted nut (3).
- Remove the wire-cloth (8) and the tightly seat (4).
- Dismantle O-Ring (9).
- Develop the plate (2) with add-on parts.
- Unscrew the screw (7).
- Dismantle disc (6) and seal (5).



6.2 Assembly

- Before installation, thoroughly clean and slightly lubricate mounting areas and running surfaces.
- Assemble in reverse order.

NOTICE

Secure the screw (7) with a Screw retention detachable (e.g. Loctite 243) .

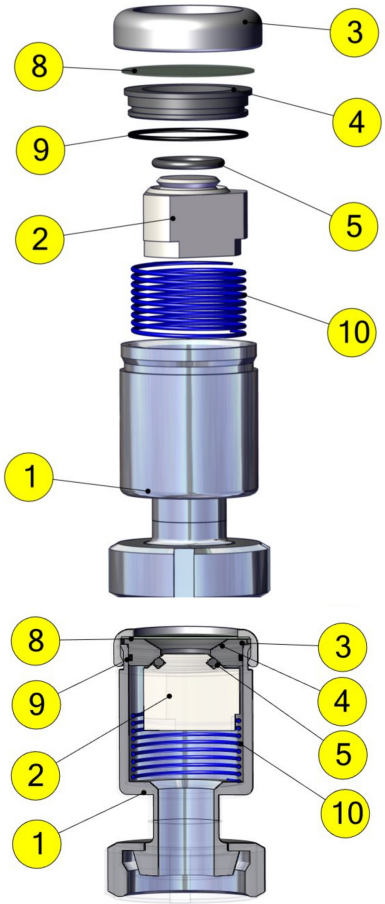
Functional check

- Check the function according to the specified performance data in the operating state.

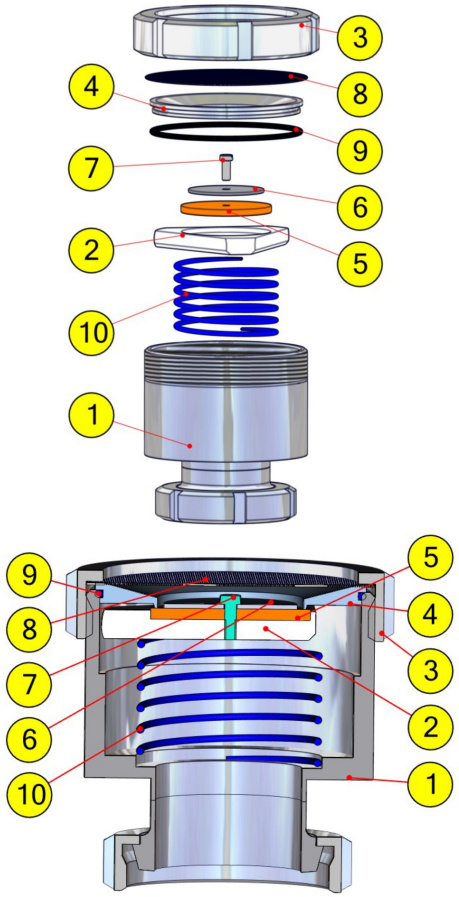
7 Drawings and dimensions

7.1 Drawings

DN 25



DN 40 - DN 65

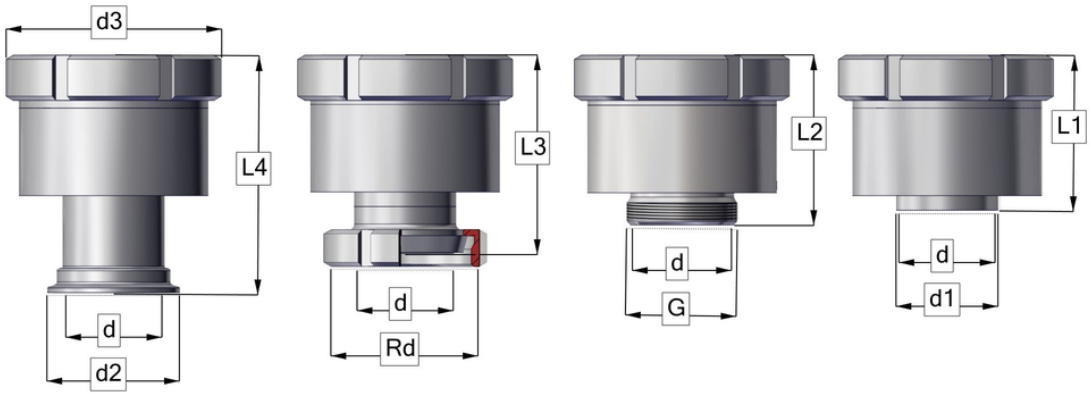


1	Housing	2	Plate
3	Cap	4	Tightly seat
5	O-ring DN25/ seal disc DN40-65	6	Disc
7	Screw	8	Wire cloth
9	O-ring	10	Spring



1	Cl = Clamp	1	K/M = Liner / nut
1	G = Male	1	S = Welded end

7.2 Dimensions



DN	d	d1	d2	d3	Rd	G	L1	L2	L3	L4
DN 25	26	29	50.5	58	Rd 52x1/6	1	75.5	81	97	97
DN 32	32	35	50.5	92	Rd 58x1/6	1 1/4	74	88	110	95.5
DN 40	38	41	50.5	92	Rd 65x1/6	1 1/2	74	88	112	95.5
DN 50	50	53	64	110	Rd 78x1/6	2	83.5	96	111	105
DN 65	66	70	91	148	Rd 95x1/6	2 1/2	104	117	136	132

8 Wearing parts

8.1 Wear parts kit

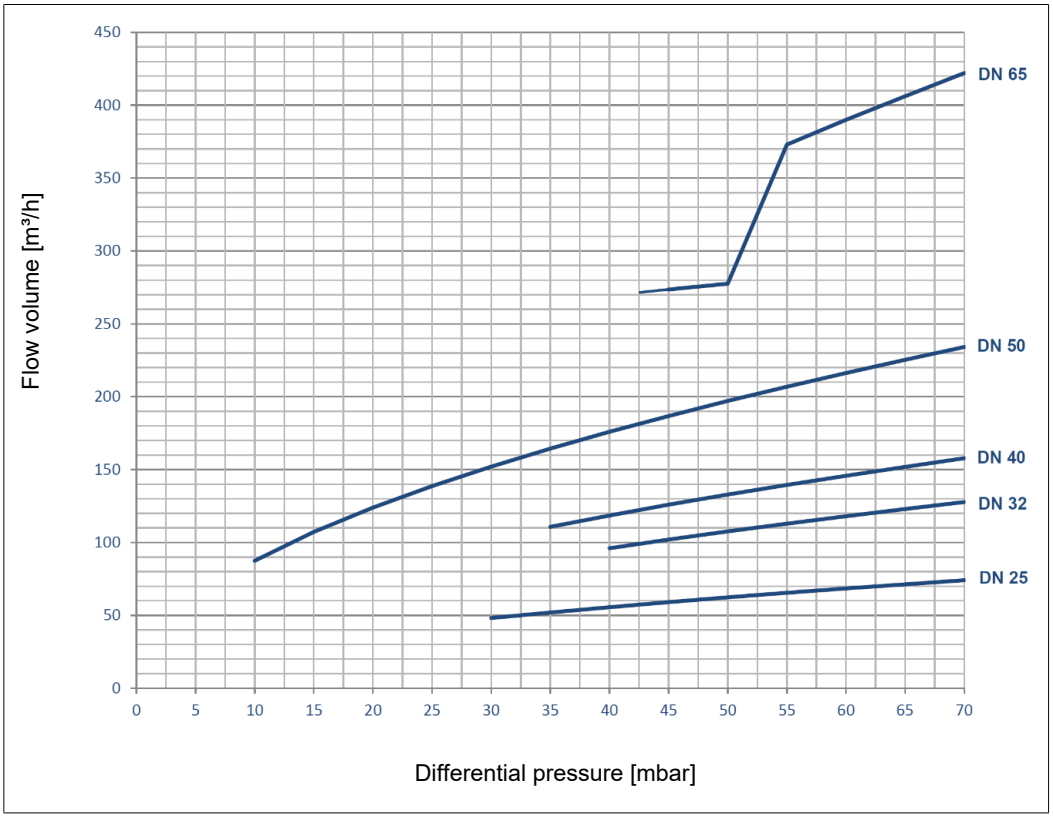
DN	Wear parts kit **Silicone / NBR**	Pos. 5 Silicone	Pos. 9 NBR
25	-	-	-
32	6138 032 990-000	2356043006-085	2304065030-055
40	6138 040 990-000	2356043006-085	2304065030-055
50	6138 050 990-000	2356058006-085	2304085035-055
65	6138 065 990-000	2356072006-085	2304113035-055

DN	Wear parts kit **NBR**	Pos. 5 NBR	Pos. 9 NBR
25	6138 025 990-050	2304022035-055	2304040020-055
32	-	-	-
40	-	-	-
50	-	-	-
65	-	-	-

DN	Wear parts kit **EPDM**	Pos. 5 EPDM	Pos. 9 EPDM
25	6138 025 993-000	2304022035-170	2304040020-054
32	6138 032 993-000	2356043006-054	2304065030-054
40	6138 040 993-000	2356043006-054	2304065030-054
50	6138 050 993-000	2356058007-054	2304085035-159
65	6138 065 993-000	2356072006-054	2304111035-084

9 Characteristic curves

9.1 Vacuum valves 6138 - 6139



10 Appendix

10.1 Declaration of incorporation

Declaration of Incorporation

according to Directive 2006/42/EC of the European Parliament and the Council of 17 May 2006

Manufacturer:
KIESELMANN GmbH
Paul-Kieselmann-Str. 4-10
D-75438 Knittlingen

We declare that the following pressure equipment

Designation	Function
Pneumatic Linear actuator	pneumatically operation of valves
Pneumatic Quarter-turn actuator	pneumatically operation of valves
Butterfly Valve (pneumatically operated)	Separation of medium flow
Ball Valve (pneumatically operated)	Separation of medium flow
Single seat Valve (pneumatically operated)	Separation of medium flow
Changeover Valve (pneumatically operated)	Separation of medium flow
Double-Seat mixproof Valve (pneumatically operated)	Separation of medium flow
Control Valve (pneumatically operated)	Regulation of medium flow
Throttling Valve (pneumatically operated)	Regulation of medium flow
Tank Outlet Valve (pneumatically operated)	Separation of medium flow
Sampling Valve (pneumatically operated)	Separation of medium flow

complies with the definition of an „incomplete machine“ according to Article 2 of the European Machinery Directive 2006/42/EG, when fitted in or merged with other machines or incomplete machines which also comply with the provision of the Directive.

Applied harmonized standards:

Directive 2014/68/EU
EN ISO 12100

Person responsible for documentation:

Achim Kauselmann
Documentation / Development
KIESELMANN GmbH

Knittlingen, 10.10.2020

i.V. Uwe Heisswolf
Head of Development

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Notes

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