

## Operating Instructions 4545 076 XXX-XXX

**Butterfly valves**  
**Clamp - Clamp DN37**  
 pneumatic operation opening by air - closing by spring

### Valve Types

Material	Valve Type	Part Number
SILICONE	EPDM	4545 076 130-021
	EPDM	4545 076 130-022
	EPDM	4545 076 130-041
	EPDM	4545 076 130-042
EPDM	EPDM	4545 076 420-021
	EPDM	4545 076 420-022
	EPDM	4545 076 420-041
	EPDM	4545 076 420-042
HNBR	HNBR	4545 076 140-021
	HNBR	4545 076 140-022
	HNBR	4545 076 140-041
	HNBR	4545 076 140-042
VITON	VITON	4545 076 140-021
	VITON	4545 076 140-022
	VITON	4545 076 140-041
	VITON	4545 076 140-042

### Field of Application

The butterfly valve is used as a shut-off valve in the food and beverage industry, in pharmaceutical and chemical engineering, as well as in bio-engineering.



### ATTENTION

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

### Function

Open or close the valve by turning the pneum. controlled rotary drive by 90°. "pneum. ENGAGED" opens the valve "not pneum. ENGAGED" spring force closes the valve.

### Installation Instructions

The installation position is without import. External forces due to the installation must always be avoided.

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

### Cleaning

For best cleaning results, keep the valve open during cleaning to completely rinse the gasket and the valve head.

### Welding Guidelines

The maintenance intervals depend on the operating conditions: temperature, temperature-intervals, medium, cleaning-medium, pressure and opening frequency. It is recommended to change the leakage butterfly valve-seal annually. The maintenance intervals, however, depend on the condition of the seats and are to be fixed by the user. The actuator is free of maintenance and can't be dismantled. The manufacturer guarantees a running time of 10 years.

### Dry Running

The butterfly valves should not be operated in dry-run mode for lengthy periods whenever this can be avoided, as this will lead to increased wear.

**EC Manufacturer's Declaration**  
 We do hereby certify that the concept and the design of the components described in this documentation, as they are supplied by ourselves, have been designed for installation into machinery or systems, and that these components may not be placed into service until it has been determined that the machinery or the system into which they are to be installed correspond with EC guideline DGRL 97/23/EG. This declaration is null and void if modifications are made to the components without our approval.

Design:	Technical Data
Butterfly valve opening by air - closing by spring	
pneumatic operation	
DN37 (Ø 72,1)	
Clamping joint DN37 DIN32676	
Operating pressure: 10 bar	
Vacuum: (test pressure 0.5mbar) 1,5 - 10 <sup>6</sup> mbar x 1/2	
Control air pressure: 5,5 - 8,0 bar	
Quality of control air: ISO 8573-1 : 2001 quality class 3	
Material:	
Stainless: 1.4404 / AISI316L	
Surfaces: RA 0,8µm	
Seals:	
EPDM - (FDA) (SIP 140°C)	
HNBR - (FDA) (SIP 140°C)	
Silicone - (FDA) (SIP 125°C)	
Viton	
RA 1,5 - 2,5µm e-polished	
not in product contact	
1.4301 / AISI304	
1.4301 / AISI304	

### Valve Types

4501.025.000-021	4501.025.130-021
4501.025.000-022	4501.025.130-022
4501.025.000-041	4501.025.130-041
4501.025.000-042	4501.025.130-042
4501.025.420-021	4501.025.140-021
4501.025.420-022	4501.025.140-022
4501.025.420-041	4501.025.140-041
4501.025.420-042	4501.025.140-042

### Field of Application

The butterfly valve is used as a shut-off valve in the food and beverage industry, in pharmaceutical and chemical engineering, as well as in bio-engineering.

### Function

The valve opens and closes by way of a multistep actuator with a rotary movement of 90°. The valve is closed by spring tension and opened by compressed air.

### Installation Instructions

The installation position is without import. During disassembly (maintenance) a detachable connection must be provided in the pipe for valves which are welded on both sides.

### Welding Guidelines

Before welding, all components must be removed from the valve housing. Welding may only be performed by certified welders (EN 287-1). It must be assured during welding that no external forces are applied to the valve housing which may cause deformation.

### Cleaning

Best cleaning results are achieved with the valve opened. Sealing and valve disc are flushed completely in this position.

### Maintenance

The maintenance intervals depend on the operating conditions, temperature, temperature-intervals, medium, cleaning medium, pressure and opening frequency. It is recommended to change the leakage butterfly valve-seal annually. The maintenance intervals, however, depend on the condition of the seals and are to be fixed by the user. The actuator is free of maintenance and can't be dismantled.

### Dry Running

The butterfly valves should not be operated in dry-run mode for lengthy periods wherever this can be avoided, as this will lead to increased wear.

### Position control and position indication

The actuator is equipped with a proximity switch holding device x 1, switching gap 4 mm (flush-mounted), are installed, the current "Open" or "Shut" position can be interrogated. By screwing the proximity initiator to the limit position the required switching gap for the signal transmission is established.

When the valve is closed the position indicator is oriented vertically to the direction of valve passage. When the valve is open it is oriented parallel to the valve passage.

### Technical Data

Valve size	DN 25 (ø 26)
Connection	Welding end DN 25 DIN 11850 series 2
Actuation	pneumatic
Operation	opening by air, closing by spring
Control air pressure	5,5 to 8,0 bar
Quality of control air	high-solids • particle size - max. 5 µm • particle density - max. 5 mg/m <sup>3</sup> (quality class 3) • water content - dew point +2°C (quality class 3) • oil content - oil-free max. 25 mg/m <sup>3</sup> oil (quality class 3)
Operating pressure	16 bar
Vacuum (test pressure 0,5 bar)	1,5 x 10 <sup>-6</sup> mbar x L/S
Material	in product contact = 1.4301 = RA 0,8 µm
Surfaces	in product contact = e-pol. = RA 0,8 µm
Seals	in product contact EPDM - FDA (SIP 140°C) HNBR - FDA (SIP 140°C) Silicone - FDA (SIP 125°C) Viton

### Special features valve control

Optionally, modular valve control systems can be installed to the actuator for reading and actuating valve positions. The standard version is a closed system with twofold limit position messaging (standard), with Inbus or ASI bus switch-on electronics, and integrated 3/2-way solenoid valves. For tough operating conditions we recommend employing a high-grade steel cover.

### Butterfly valves S - S DN 25 opening by air - closing by spring

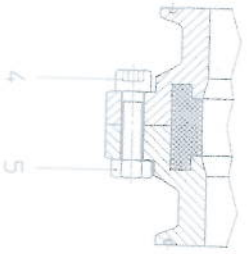
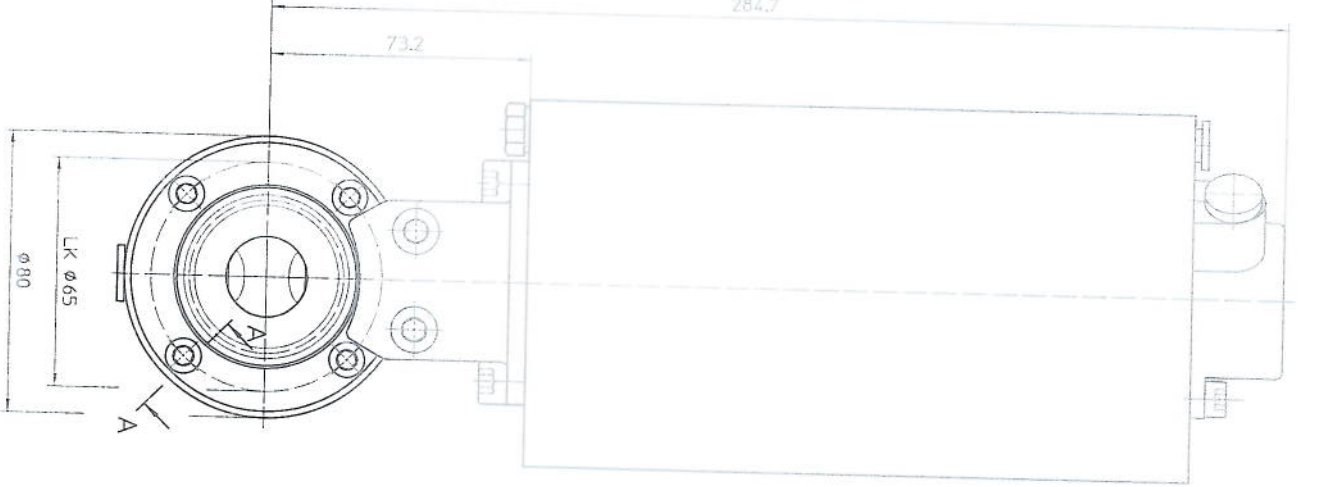
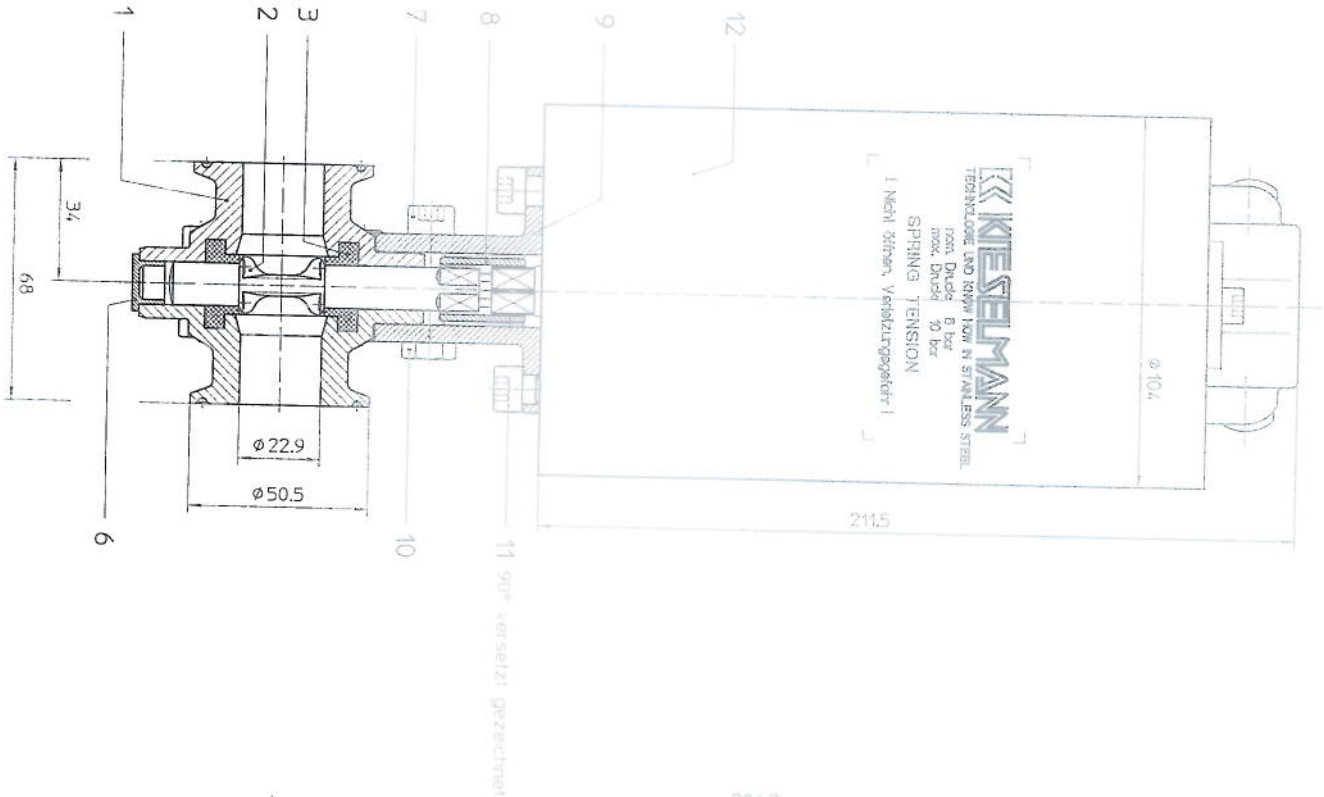
### Butterfly valves S - S DN 25 pneumatic operation

### EC Manufacturer's Declaration

In Compliance with EC Machine Guideline 89/392/EWG, Appendix 2 B

We do hereby certify that the concept and the design of the components described in this documentation, as they are supplied by ourselves, have been designed for installation into machinery or systems, and that these components may not be placed into service until it has been determined that the machinery or the system into which they are to be installed correspond with EC guideline 93/44/EWG.

This declaration is null and void if modifications are made to the components without our approval.



SECTION A-A

NO.	DRAWING NUMBER	MATERIAL	NOMEN. CL. TYPE	DIMENSION
1	4345.026.001-020	1.4301	CASE-CLAMP " "	DN 25 - "
2	4391025.002-021	1.4301	BUTTERFLY VALVE DN 25	DN 25
3	4326025.000-052	WIG 11 70	SPECIAL SEAL DN 25	DN 25
4	8095.006.025-020	1.4301	SCREW DN 912	M6x25
5	8107.006.000-020	1.4301	HEXAGON NUT DN 912	M6
6	4301080.020-095	PE 11	CAP GRU 300/F095	M6x35
7	8095.008.035-020	1.4301	SCREW DN 912	M8x35
8	4401.300.002-020	1.4301	SQUARE HUB	
9	4500.050.001-027	1.4308	HOLDING ANGLE DN 25-50	DN 25-50
10	8107.008.000-020	1.4301	HEXAGON NUT DN 912	M8
11	8095.008.012-020	1.4301	SCREW DN 912	M8x12
12	4200.100.100-022	1.4301	PIEDON MULTI ACTUATOR 10	M8x12

STANDARD  
 CHECKED 300338 WK  
 DRAWN 300338 WK  
 DATE 11/2012

TYPE OF PRODUCTS  
 COCKS+ BUTTERFLY VALVE

NOMEN. CL. TYPE  
 BUTTERFLY VALVE  
 C-C, 18-1s, 1"

PROTECTION MARK: CH 34

NO. DATE NAME  
 4545.026.000-021

TECHNOLOGIE UND KONSTRUKTION  
 KIESELMANN

**KIESELMANN**  
 TECHNOLOGIE UND KONSTRUKTION  
 max. Druck 10 bar  
 max. Druck 10 bar  
 SPRING TENSION  
 Nicht öffnen, Verletzungsgefahr!

# Disassembly - Assembly - Spare Parts

## Disassembly and Assembly

**DANGER!**  
The pipe system must be relieved of pressure and drained of liquid before removal of the butterfly valve.

- Unscrew pan head screws (5) (2 ea.)
- Remove proximity switch holding device (6) with screws in proximity initiators
- Release clamping joint by unscrew the connection
- Dismantling Actuator "old design" clamping joint union and remove actuator (4)
- Dismantling Actuator "new design" (1999 / see drawing) unscrew screw joints (10) (2ea.) and pneumatic multitem actuator (4) with square boss (12)
- Unscrew screw joints (7) and (8) and remove housing-flange (1)
- Dismantle butterfly valve seal (3) and flap (2)
- Position flap (2) in "open" position to butterfly valve seal (3)
- Deform butterfly valve seal (3) manually to oval shape toward center of flap disc (2)
- Pull out flap at traverse borings of butterfly valve seal, first at short, then at long shaft end
- Carry out assembly in reverse order

### ASSEMBLY INSTRUCTIONS

- Grease the two shafts of the flap (2) before inserting it into the butterfly valve seal (3) using a grease that is suitable for foods.
- Close flap (spring closing position) before assembling the actuator (4)
- Do not install the actuator when set to pneumatic action (spring closing condition)
- The position indicator is oriented vertically to valve passage direction - valve position "shut".

**DANGER!**  
If a butterfly valve is pneumatically connected, do not reach into the gate of the valve.

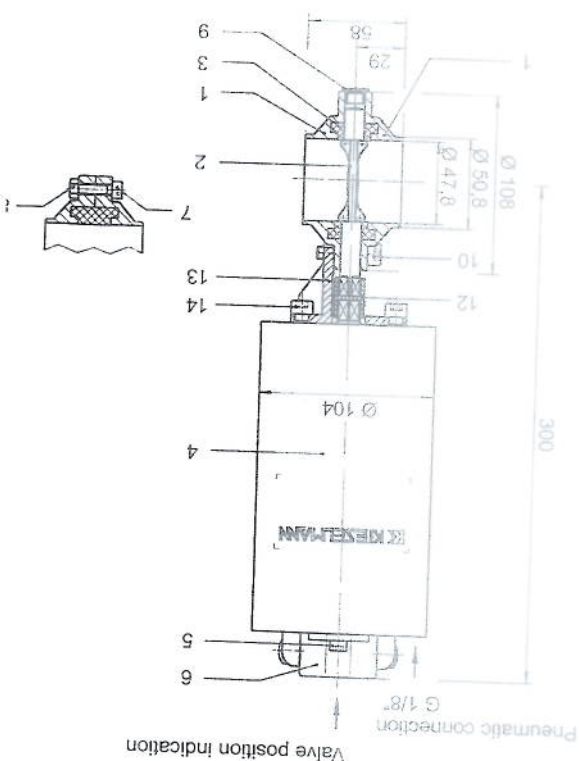
Seal material  
EPDM, Viton  
HNBR, Silicone  
Grease types  
- Küber Parafiq GTE 703  
- Küber Parafiq GB 363

Wave type	Material	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9	Item 10	Item 11	Item 12	Item 13	Item 14
Flap															
Housing															
Material															
Article no.															

Wave type	Material	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9	Item 10	Item 11	Item 12	Item 13	Item 14
Flap															
Housing															
Material															
Article no.															

Wave type	Material	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9	Item 10	Item 11	Item 12	Item 13	Item 14
Flap															
Housing															
Material															
Article no.															

Wave type	Material	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9	Item 10	Item 11	Item 12	Item 13	Item 14
Flap															
Housing															
Material															
Article no.															



Valve position indication

**Operating Instructions**  
**4545 064 XXX-XXX**  
**Butterfly valves**  
**Clamp - Clamp DN2½"**  
 pneumatic operation opening by air - closing by spring

**DANGER**  
 The pipe system must be relieved of pressure and drained of liquid before removal of the valve.

- Disassembly**
- Unscrew pan head screws (5) (2x) and remove proximately switch holding device (6) with screwed in proximately indicators.
  - Detach clamp connection on both sides, radially remove the valve.

- Dismantling Actuator**
- Release clamping joint by unscrew the connection union and remove actuator (4).

- > OLD DESIGN < clamping joint**
- Release clamping joint by unscrew the connection union and remove actuator (4).

- > NEW DESIGN < (1999 / see drawing)**
- Unscrew screw joints (10) (2x) and pneumatic multiactuator (4) with square boss (11).
  - Unscrew screw joints (7) and (8) and remove housing flange (1).
  - Dismantle butterfly valve seal (3) and flap (2).
  - Position flap (2) in "open" position to butterfly valve seal (3).
  - Deform butterfly valve seal (3) manually to oval shape toward center of flap disc (2).
  - Pull out flap (2) at reverse bonings of butterfly valve seal (3), first at short, then at long shaft end.
  - Carry out assembly in reverse order.

**NOTE**  
 Grease the two shafts of the flap (2) before inserting it into the butterfly valve seal (3) using a grease that is suitable for foods.  
 Close flap (spring closing position) before assembling the actuator (4).  
 Do not install the actuator when set to pneumatic action (spring closing condition).  
 The position indicator is oriented vertically to valve passage direction - valve position "shut".

**DANGER**  
 Under pneumatic activation of the valve, limbs can get crushed or cut if they are inserted in the passage-way of the valve.  
 In general, before assembly activities, disconnect the compressed air pipe from the drive.

**Seal material Grease types**  
 EPDM, Viton, Threading  
 NBR, HNBR, Silicone  
 Küber Paralyg GTE 703  
 Küber Paralyg GB 363

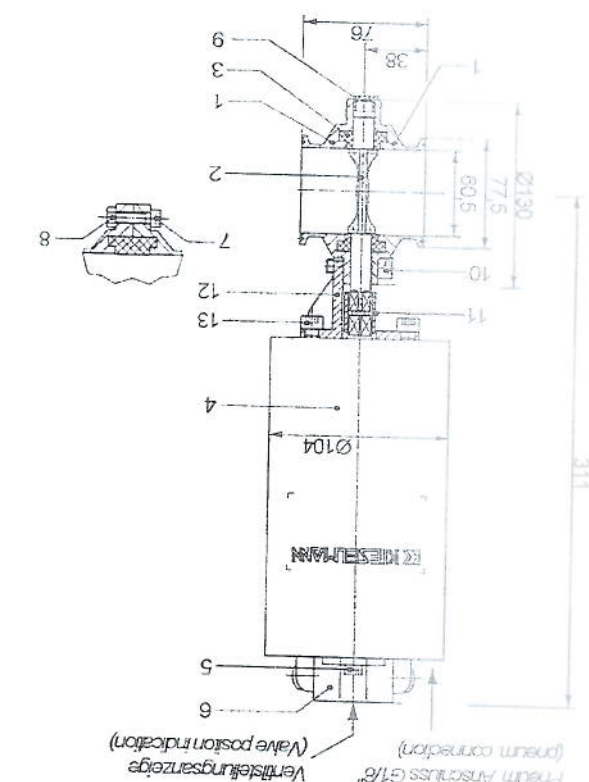


Illustration = valve position "shut"  
 III, 1

Valve type	Material	Housing	Flap	Pos.1	Pos.2	Pos.3	Pos.4	Pos.5	Pos.6	Pos.7	Pos.8	Pos.9	Pos.10	Pos.11	Pos.12	Pos.13
4545 064 000-021	1.4301-EPi	1.4301-EPi	EPDM	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065
4545 064 001-020	1.4301-EPi	1.4301-EPi	Silicone	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065
4545 064 002-021	1.4301-EPi	1.4301-EPi	EPDM	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065
4545 064 003-022	1.4301-EPi	1.4301-EPi	EPDM	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065
4545 064 130-021	1.4301-EPi	1.4301-EPi	EPDM	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065
4545 064 130-022	1.4301-EPi	1.4301-EPi	EPDM	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065
4545 064 130-041	1.4301-EPi	1.4301-EPi	EPDM	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065
4545 064 130-042	1.4301-EPi	1.4301-EPi	EPDM	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065
4545 064 420-041	1.4301-EPi	1.4301-EPi	HNBR	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065
4545 064 420-042	1.4301-EPi	1.4301-EPi	HNBR	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065
4545 064 430-041	1.4301-EPi	1.4301-EPi	HNBR	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065
4545 064 430-042	1.4301-EPi	1.4301-EPi	HNBR	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065
4545 064 140-021	1.4301-EPi	1.4301-EPi	EPDM	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065
4545 064 140-022	1.4301-EPi	1.4301-EPi	EPDM	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065
4545 064 140-041	1.4301-EPi	1.4301-EPi	EPDM	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065
4545 064 140-042	1.4301-EPi	1.4301-EPi	EPDM	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065
4545 064 140-043	1.4301-EPi	1.4301-EPi	EPDM	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065
4545 064 140-044	1.4301-EPi	1.4301-EPi	EPDM	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065
4545 064 140-045	1.4301-EPi	1.4301-EPi	EPDM	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065	4301 065

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