



Operating Instruction:

Ball-type check valve

Type: 5080



Kieselmann GmbH
Paul-Kieselmann-Str. 4-10 · 75438 Knittlingen
Telefon +49 (0) 7043 371-0 · Fax: +49 (0) 043 371-125
sales@kieselmann.de · www.kieselmann.de



1. List of contents

1.	List of contents	2
2.	Information for your safety.....	3
3.	Marking of security instructions in the operating manual	3
4.	Valve type	4
4.1	Ball-type check valve	4
5.	Safety instructions.....	4
5.1	Field of application	4
5.2	General safety instructions.....	4
5.3	General notes	4
6.	Function	5
6.1	Functional description	5
7.	Installation informations.....	5
7.1	Installation instructions.....	5
8.	Maintenance.....	5
8.1	Maintenance	5
8.2	Cleaning.....	5
9.	Technical data	6
10.	Flow chart diagram.....	6
11.	Disassembly and assembly.....	7
11.1	Disassembly - type FI-FI.....	7
11.2	Disassembly - type S-S; S-G; G-G; K-M/G	7
11.3	Assembly	7
12.	Drawing	7
13.	Dimensions	8
13.1	Size measurement table	8
14.	Spare parts list	9
14.1	Ball-type check valve	9
14.2	Valve type: G-S, G-G, S-S, G-K/M, K/M-G	10
14.3	Valve type: FI-FI Intermediate flange	11



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
	DANGER	Imminent danger which may cause severe personal injury or death.
	ATTENTION	Dangerous situation which may cause slight personal injury or material damages.
	NOTE	Marks application hints and other information which is particularly useful.

4. Valve type

4.1 Ball-type check valve

Connection	Article No.	Material	Seal	Ball
G-S	5080 DN 000-041	1.4404 / AISI316L	EPDM	Steel / EPDM
	5080 DN 000-021	1.4301 / AISI304		
	5080 DN 120-041	1.4404 / AISI316L	EPDM	PTFE
	5080 DN 120-021	1.4301 / AISI304		
	5080 DN 140-041	1.4404 / AISI316L	Viton®	Steel / Viton®
	5080 DN 140-021	1.4301 / AISI304		
G-G	5080 DN 040-041	1.4404 / AISI316L	EPDM	Steel / EPDM
	5080 DN 040-021	1.4301 / AISI304		
	5080 DN 190-041	1.4404 / AISI316L	EPDM	PTFE
5080 DN 190-021	1.4301 / AISI304			
S-S	5080 DN 150-041	1.4404 / AISI316L	EPDM	Steel / EPDM
	5080 DN 150-021	1.4301 / AISI304		
	5080 DN 180-041	1.4404 / AISI316L	EPDM	PTFE
5080 DN 180-021	1.4301 / AISI304			
G-K/M	5080 DN 135-041	1.4404 / AISI316L	EPDM	Steel / EPDM
	5080 DN 135-021	1.4301 / AISI304		
K/M-G	5080 DN 100-041	1.4404 / AISI316L	EPDM	Steel / EPDM
	5080 DN 100-021	1.4301 / AISI304		
FI-FI	5080 DN 110-041	1.4404 / AISI316L	EPDM	PTFE
	5080 DN 110-021	1.4301 / AISI304		

DN = Nominal diameter (e.g. 5080 050 000-041)
 G = Male part
 S = Welding end
 K/M = Liner/nut
 FI = Flange
 TC = Clamp

-021 = 1.4301 / AISI304 polished
 -022 = 1.4301 / AISI304 mat
 -041 = 1.4404 / AISI316L polished
 -042 = 1.4404 / AISI316L mat

5. Safety instructions

5.1 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.

5.2 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.

5.3 General notes



NOTE

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

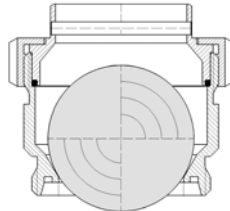


6. Function

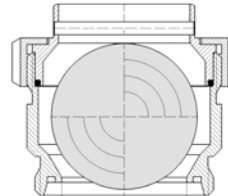
6.1 Functional description

The valve has the function to prevent the return flow of liquid media in pipings. During opposite direction of flow the ball is pressed into the seat and prevents the return flow of the medium.

valve closed



valve opened



7. Installation informations

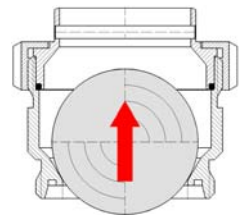
7.1 Installation instructions

The installation position is perpendicularly with the direction of flow upward.



NOTE

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



8. Maintenance

8.1 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.

► Lubricants



NOTE

Seal materials

EPDM; Viton; K-Flex →
NBR; HNBR; Silikon →
Thread →

Lubricants

Klüber Paraliq GTE
Klüber Paraliq GB 363
Teflon grease Interflon

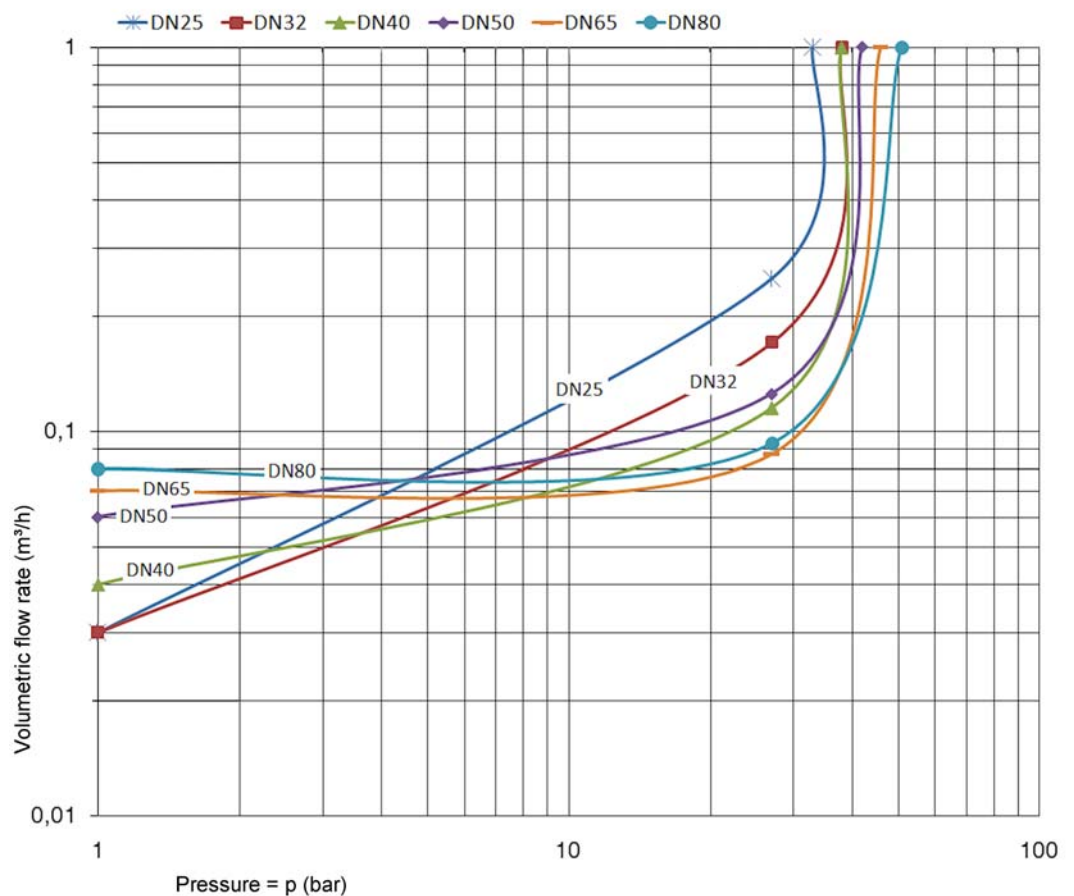
8.2 Cleaning

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

9. Technical data

Model:	Ball-type check valve					
Valve size:	DN15 - DN80					
Connection:	G =Male part S =Welding end K/M=Liner/nut Fl =Flange TC =Clamp					
Temperature range:	<ul style="list-style-type: none"> Operating pressure: +0° - +95°C medium-dependently Sterilization temperature: +130°C short time (30min) 					
Operations pressure:	10 bar					
Material:	in product contact	not in product contact				
Stainless steel:	1.4404 / AISI316L	1.4301 / AISI304				
Surfaces:	RA ≤0,8µm e-pol.	RA 1,5-2,5 µm e-pol.				
Seals:	EPDM; NBR; Viton®; PTFE	-				
Flow rate:	KV-value = m³/h					
	DN25	DN32	DN40	DN50	DN65	DN80
	15	23	25	48	65	90

10. Flow chart diagram



11. Disassembly and assembly

➤ Lubricants

• EPDM; Viton; K-Flex
Klüber Paraliq GTE 703

• NBR; HNBR; Silikon
Klüber Paraliq GB 363

• Thread
Teflongrease Interflon

11.1 Disassembly - type FI-FI

- Unscrew the nut (15) and develop the screws (6).
- Remove the housing (12).
- Unscrew the headless pins (10) and develop the tightly seat (8) and (13).
- Remove the ball (4), the O-Rings (11) and the seal (9).

11.2 Disassembly - type S-S; S-G; G-G; K-M/G

- Unscrew the union nut (2).
- Remove the connection piece (1) and the ball (4).
- Remove and replace the seals.

11.3 Assembly

- Thoroughly clean and slightly lubricate mounting areas and running surfaces.
- Assemble in reverse order.

12. Drawing

1) Connection piece

a) Piece S

b) Piece G

c) Piece K/M

2) Union nut

3) O-Ring

4) Ball

5) Housing

a) Housing S

b) Housing G

c) Housing K/M

6) Screw

7) Flange

8) Tightly seat

9) Seal

10) Headless pin

11) O-Ring

12) Housing

13) Tightly seat

14) Split washer

15) Nut

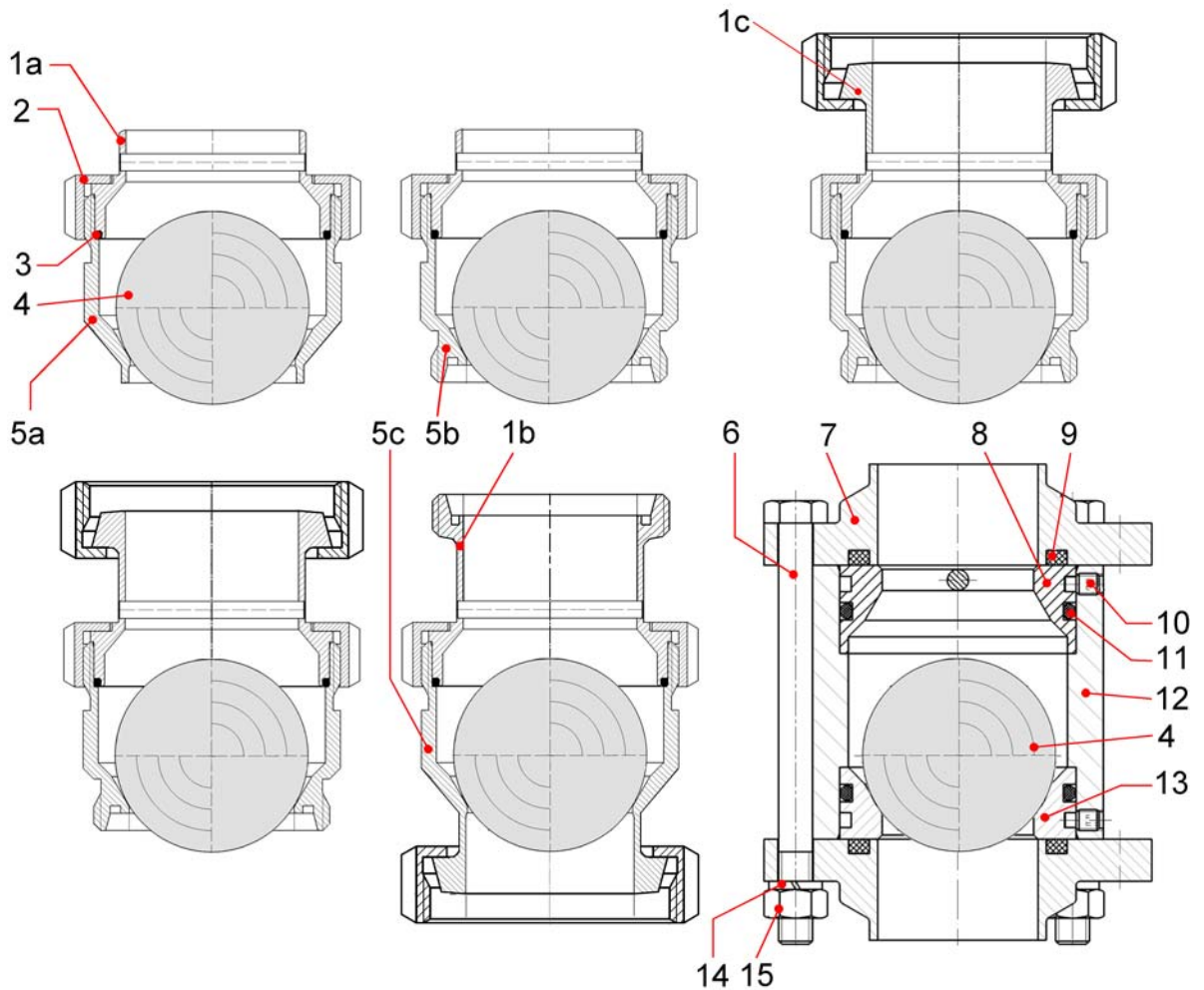
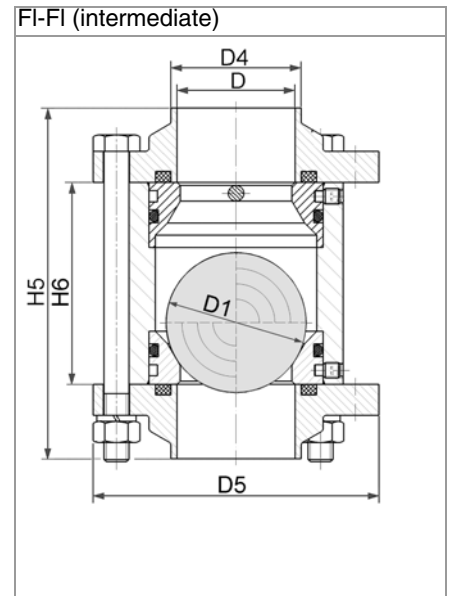
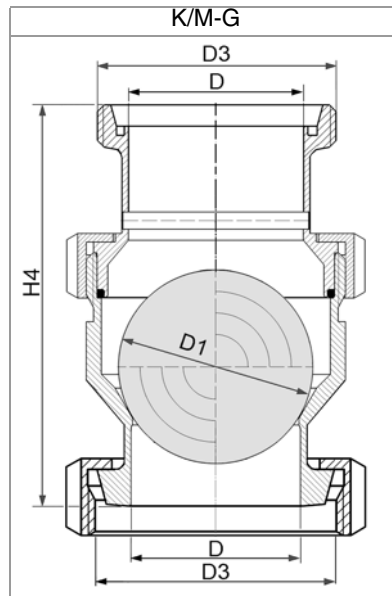
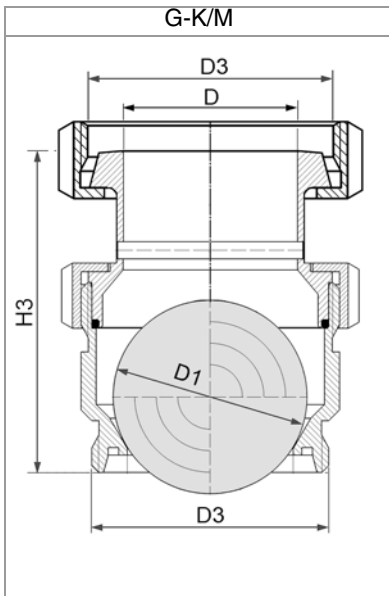
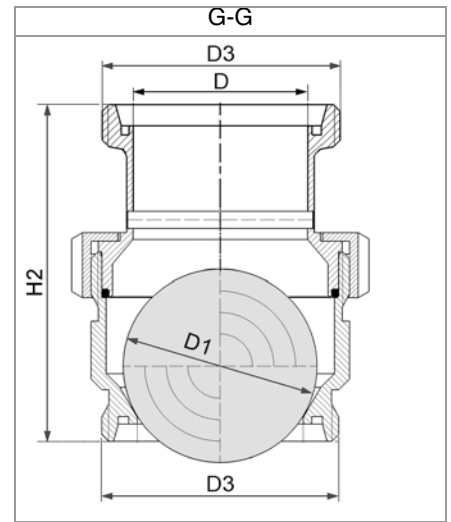
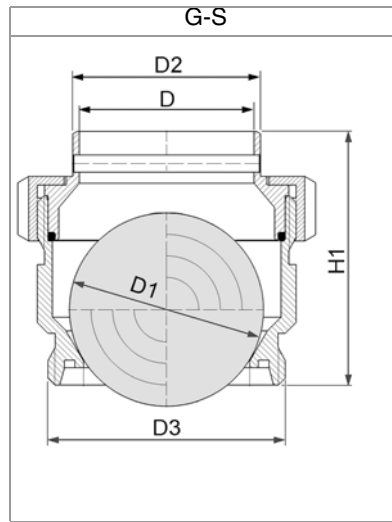
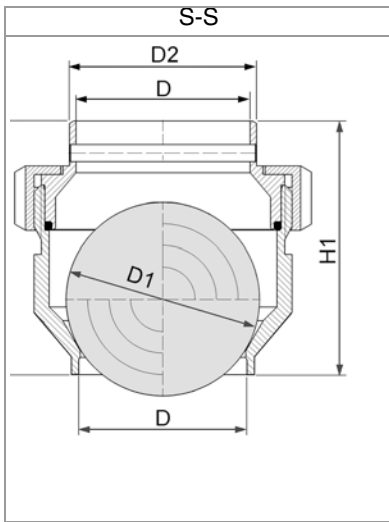


Fig. 1

13. Dimensions

13.1 Size measurement table

nominal diameter	D	D1	D2	D3	D4	D5	H1	H2	H3	H4	H5	H6
25	26	32	Ø 31x2,5	Rd 52x1/6	-	-	~ 65	87	80	95	-	-
32	32	35	Ø 37x2,5	Rd 58x1/6	-	-	~ 69	91	84	99	-	-
40	38	45	Ø 43x2,5	Rd 65x1/6	41	92	~ 78	100	93	108	113	65
50	50	55	Ø 55x2,5	Rd 78x1/6	-	-	~ 86	109	102	118	-	-
65	66	75	Ø 66x3,0	Rd 95x1/6	-	-	~ 103	128	120	137	-	-
80	81	90	Ø 87x3,0	Rd 110x1/4	85	146	~ 118	143	135	152	114	96



14. Spare parts list

14.1 Ball-type check valve

Variant	Seal	Ball	Article No.		Material
Standard valve G-S	EPDM	Stahl / EPDM	5080 DN 000	- 021	1.4301/ASI304 poliert
	EPDM	PTFE	5080 DN 120		
	Viton®	Stahl / Viton®	5080 DN 140	- 041	1.4404/ASI316L poliert
	EPDM	Stahl / NBR	5080 DN 170		
G-G	EPDM	Stahl / EPDM	5080 DN 040	- 021	1.4301/ASI304 poliert
	EPDM	PTFE	5080 DN 190	- 041	1.4404/ASI316L poliert
S-S	EPDM	Stahl / EPDM	5080 DN 150	- 021	1.4301/ASI304 poliert
	EPDM	PTFE	5080 DN 180	- 041	1.4404/ASI316L poliert
G-K/M	EPDM	Stahl / EPDM	5080 DN 135	- 021	1.4301/ASI304 poliert
				- 041	1.4404/ASI316L poliert
K/M-G	EPDM	Stahl / EPDM	5080 DN 100	- 021	1.4301/ASI304 poliert
				- 041	1.4404/ASI316L poliert
FI-FI (Intermediate flange)	EPDM	PTFE	5080 DN 110	- 021	1.4301/ASI304 poliert
				- 041	1.4404/ASI316L poliert

DN = Nominal diameter (z.B. 5080 050 000-041)

G = Male part

S = Welding end

K/M = Liner/nut

FI = Flange

TC = Clamp

-021 = 1.4301 / AISI304 poliert

-022 = 1.4301 / AISI304 matt

-041 = 1.4404 / AISI316L poliert

-042 = 1.4404 / AISI316L matt

14.2 Valve type: G-S, G-G, S-S, G-K/M, K/M-G

Item.	Designation	Material	DN25	DN32	DN40	DN50	DN65	DN80
1	Piece S	1.4301	5080 025 001-021	5080 032 001-021	5080 040 001-021	5080 050 001-021	5080 065 001-021	5080 080 001-021
		1.4404	5080 025 001-041	5080 032 001-041	5080 040 001-041	5080 050 001-041	5080 065 001-041	5080 080 001-041
	Piece G	1.4301	5080 025 101-021	5080 032 101-021	5080 040 101-021	5080 050 101-021	5080 065 101-021	5080 080 101-021
		1.4404	5080 025 101-041	5080 032 101-041	5080 040 101-041	5080 050 101-041	5080 065 101-041	5080 080 101-041
	Piece K/M	1.4301	5080 025 136-021	5080 032 136-021	5080 040 136-021	5080 050 136-021	5080 065 136-021	5080 080 136-021
		1.4404	5080 025 136-041	5080 032 136-041	5080 040 136-041	5080 050 136-041	5080 065 136-041	5080 080 136-041
2	Union nut	1.4301	2003 025 000-021	2003 032 000-021	2003 040 000-021	2003 050 000-021	2003 065 000-021	2003 080 000-021
3	O-Ring	EPDM	2304 035 030-170	2304 042 030-170	2304 046 030-170	2304 060 030-170	2304 085 035-159	2304 100 040-159
		Viton®	2304 035 030-051	2304 042 030-051	2304 046 030-051	2304 028 035-251	2304 085 035-078	2304 100 040-051
4	Ball	Stahl / EPDM	2342 032 025-068	2342 035 025-068	2342 045 035-068	2342 055 045-068	2342 075 065-068	2342 090 080-068
		PTFE	2341 032 000-053	2341 035 000-053	2341 045 000-053	2341 055 000-053	2341 075 000-053	2341 090 000-053
		Stahl / Viton®	2342 032 025-051	2342 035 025-051	2342 045 035-051	2342 055 045-051	2342 075 065-051	2342 090 080-051
		Stahl / NBR	2342 032 025-055	2342 035 025-055	2342 045 035-055	2342 055 045-055	2342 075 065-055	2342 090 080-055
5	Housing S	1.4301	5091 025 351-021	5091 032 351-021	5091 040 351-021	5091 050 351-021	5091 065 351-021	5091 080 351-021
		1.4404	5091 025 351-041	5091 032 351-041	5091 040 351-041	5091 050 351-041	5091 065 351-041	5091 080 351-041
	Housing G	1.4301	5091 025 001-021	5091 032 001-021	5091 040 001-021	5091 050 001-021	5091 065 001-021	5091 080 001-021
		1.4404	5091 025 001-041	5091 032 001-041	5091 040 001-041	5091 050 001-041	5091 065 001-041	5091 080 001-041
	Housing K/M	1.4301	5091 025 561-021	5091 032 561-021	5091 040 561-021	5091 050 561-021	5091 065 561-021	5091 080 561-021
		1.4404	5091 025 561-041	5091 032 561-041	5091 040 561-041	5091 050 561-041	5091 065 561-041	5091 080 561-041

14.3 Valve type: FI-FI Intermediate flange

Item.	Designation	Material	DN25	DN32	DN40	DN50	DN65	DN80
4	Ball	Stahl / EPDM	2342 032 025-068	2342 035 025-068	2342 045 035-068	2342 055 045-068	2342 075 065-068	2342 090 080-068
		PTFE	2341 032 000-053	2341 035 000-053	2341 045 000-053	2341 055 000-053	2341 075 000-053	2341 090 000-053
		Stahl / Viton®	2342 032 025-051	2342 035 025-051	2342 045 035-051	2342 055 045-051	2342 075 065-051	2342 090 080-051
		Stahl / NBR	2342 032 025-055	2342 035 025-055	2342 045 035-055	2342 055 045-055	2342 075 065-055	2342 090 080-055
6	Screw	1.4301			8105 008 100-020			8105 010 130-020
7	Flange	1.4301	----	----	2040 040 000-020	----	----	2040 080 000-020
		1.4404	----	----	2040 040 000-040	----	----	2040 080 000-040
8	Tighty seat	1.4301	----	----	5080 040 111-021	----	----	5080 080 111-021
		1.4404	----	----	5080 040 111-041	----	----	5080 080 111-041
9	Seal	EPDM			2005 040 000-054			2005 080 000-054
		Viton®	----	----	----	----	----	----
		HNBR	----	----	----	----	----	----
		NBR	----	----	----	----	----	----
10	Headless pin	1.4301	----	----	8089 005 008-040	----	----	8089 005 008-040
11	O-Ring	EPDM	----	----	2304 047 035-159	----	----	2304 100 040-159
12	Housing	1.4301	----	----	5093 040 002-020	----	----	5093 080 002-020
		1.4404	----	----	5093 040 002-040	----	----	5093 080 002-040
13	Tighty seat	1.4301	----	----	5093 040 001-020	----	----	5093 080 001-020
		1.4404	----	----	5093 040 001-040	----	----	5093 080 001-040
14	Split washer	1.4301	----	----	8140 008 001-020	----	----	8071 105 001-020
15	nut	1.4301	----	----	8107 008 000-020	----	----	8107 010 000-020