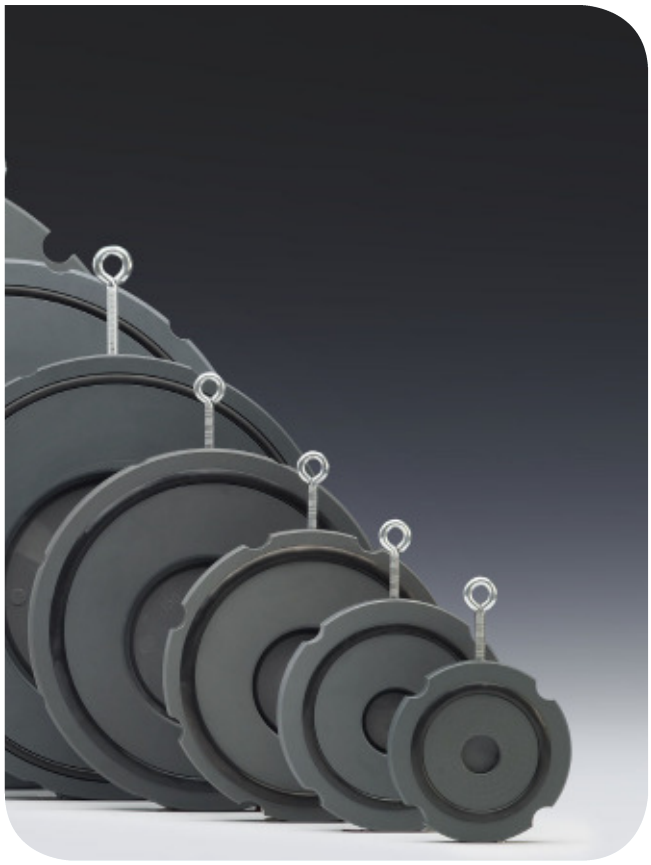
Product Range

Wafer check valve type 369



+GF+

GEORG FISCHER
PIPING SYSTEMS

List of Abbreviations

ANSI	American National Standard Institute
ASTM	American Society for Testing and Materials
BS	British Standard
DIN	Deutsche Industrie-Normen
ISO	International Standardization Organization
PVC-U	Polyvinyl chloride, unplasticized
PP-H	Polypropylene, Homopolymeride
PE	Polyethylene
PVDF	Polyvinylidene fluoride
EPDM	Ethylene-Propylene-Rubber
FPM	Fluororubber, e.g. Viton®
d	Pipe outer diameter
DN	Nominal diameter
PN	Nominal pressure at 20 °C, water
kg	Weight in kilograms
®	Registered trademark

The technical data are not binding and not expressly warranted characteristics of the goods. They are subject to change.
Our General Conditions of Sale apply.

Dimensions
All dimensions are given in mm.

Table of contents

Reliable and maintenance free: The wafer check valve type 369

The wafer check valves type 369 complement the vast range of GF valves. They prevent the medium from flowing back, they are available in PVC-U, PP and PVDF (DN32 – DN300) and also with reset springs in V4A and Hastelloy. The wafer check valves are suitable for vertical and horizontal mounting. They are robust and maintenance free and admitted for a nominal pressure (PN) of 6 bar.

Technical characteristics

General

The wafer check valves type 369 from GF Piping Systems prevent the medium from flowing back in the allowable pressure and temperature range.

Function

If medium flows in flow direction, the disc will open of the wafer check valve and medium can flow. If the media pressure goes under a particular value, the disc will close again.

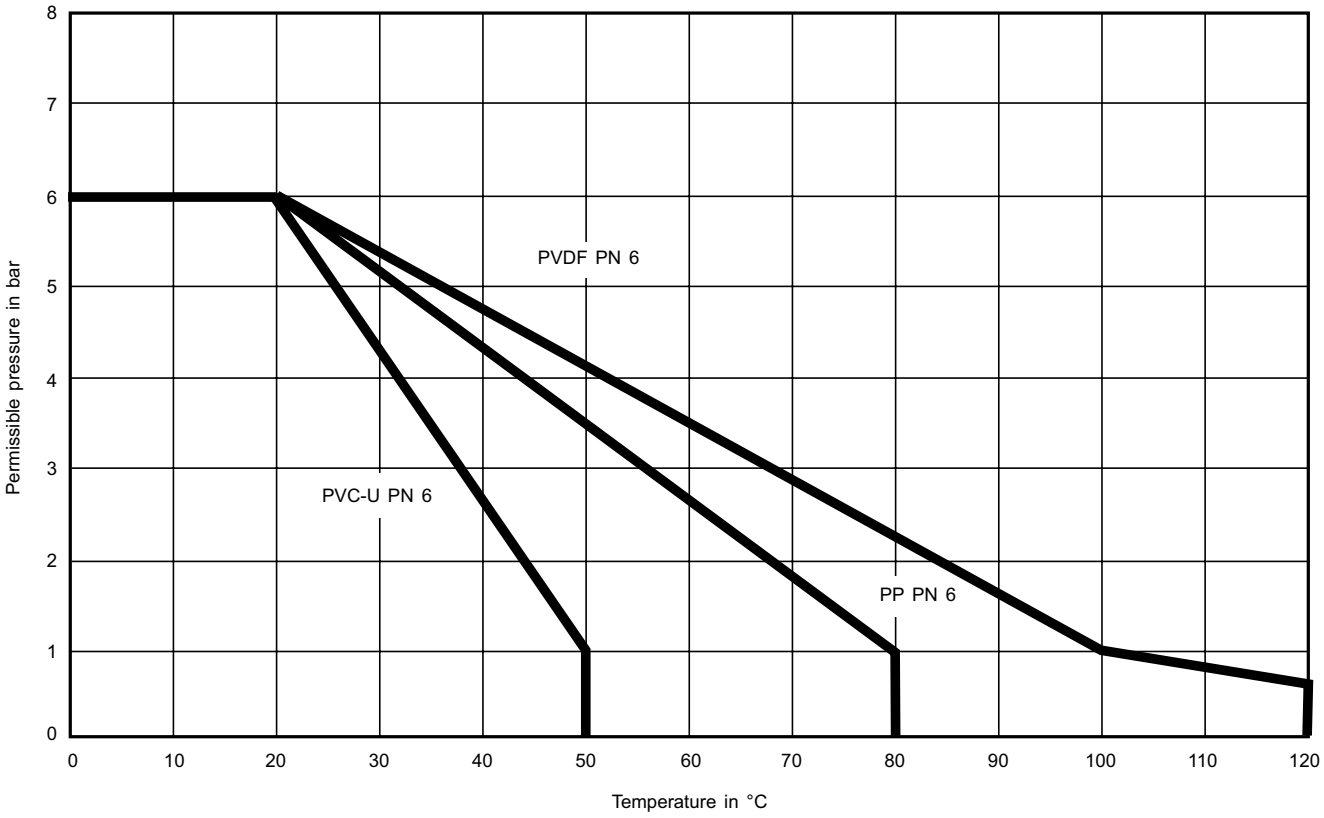
Pressure Range

- Pressure rate 6 bar at 20° C

Special Features

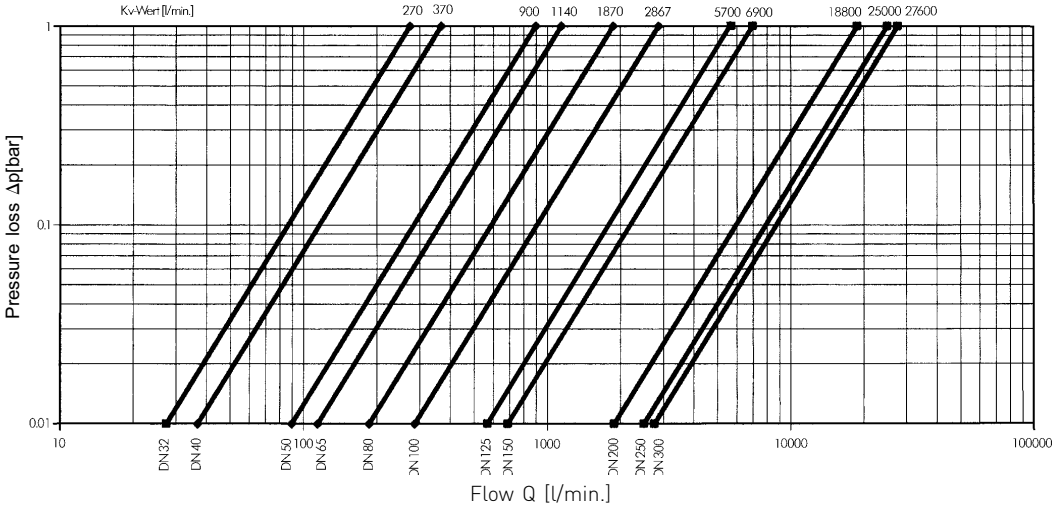
- Robust and maintenance free design.
- Easy installation. The screws centre the check valve via the outer diameter for ISO/DIN and ANSI flange adaptors.
- The integrated supporting eye let for easy fitting.
- Suitable for vertical or horizontal mounting.
- All parts with media contact are made in high resistant plastics and seals material.
- Available in the dimensions from DN32 up to DN300 in PVC-U, PP-H and PVDF.
- Special EPDM or FPM gaskets are suitable for flange adaptors with grooves.
- Disc seals are available in EPDM or FPM.
- Wafer check valves in PVC-U are suitable for ISO/DIN and also ANSI flange adaptors due to their special outer shape.
- For pulsating flow we recommend wafer check valves with reset spring in order to reduce the noise. Available in stainless steel V4A or Hastelloy C.

Pressure-Temperature Diagram Wafer Check, Valves, Type 369 PVC-U, PP, PVDF

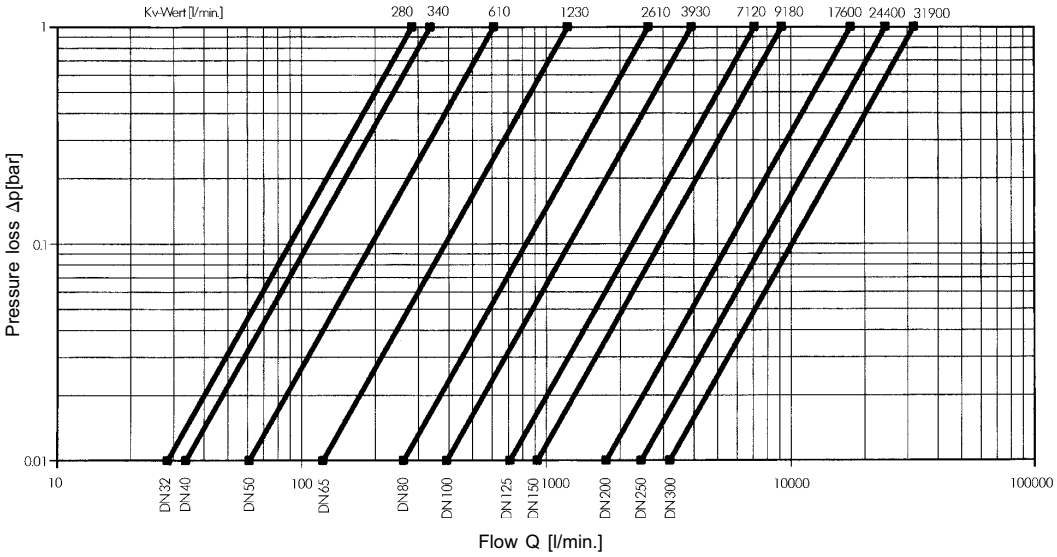


Technical Information about Wafer Check Valves, Type 369

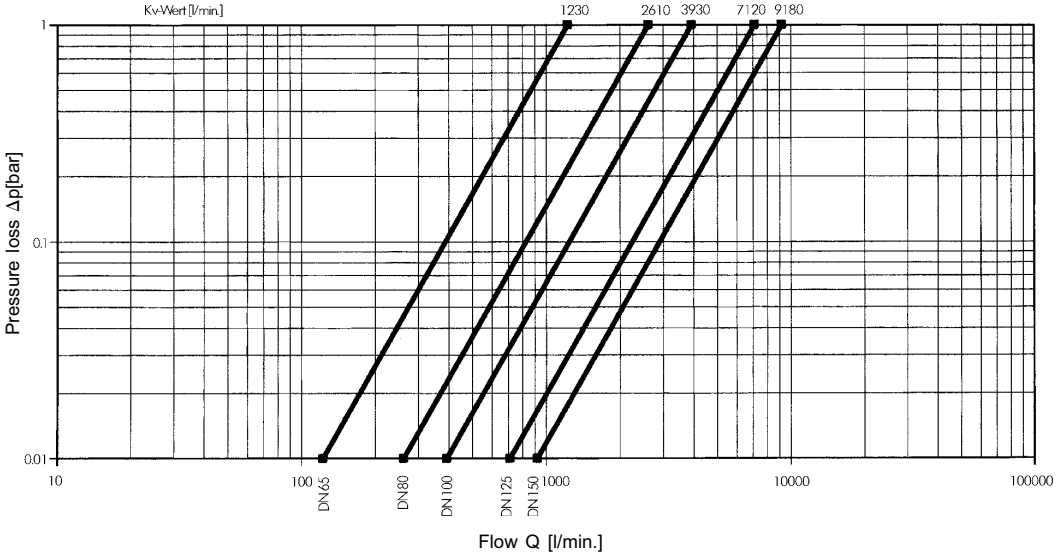
Pressure loss characteristic for wafer check valves PVC-U, pipe PN 10



Pressure loss characteristic for wafer check valves PP with outlet flange PP/PE, ISO S5/SDR 11 (PN 10)

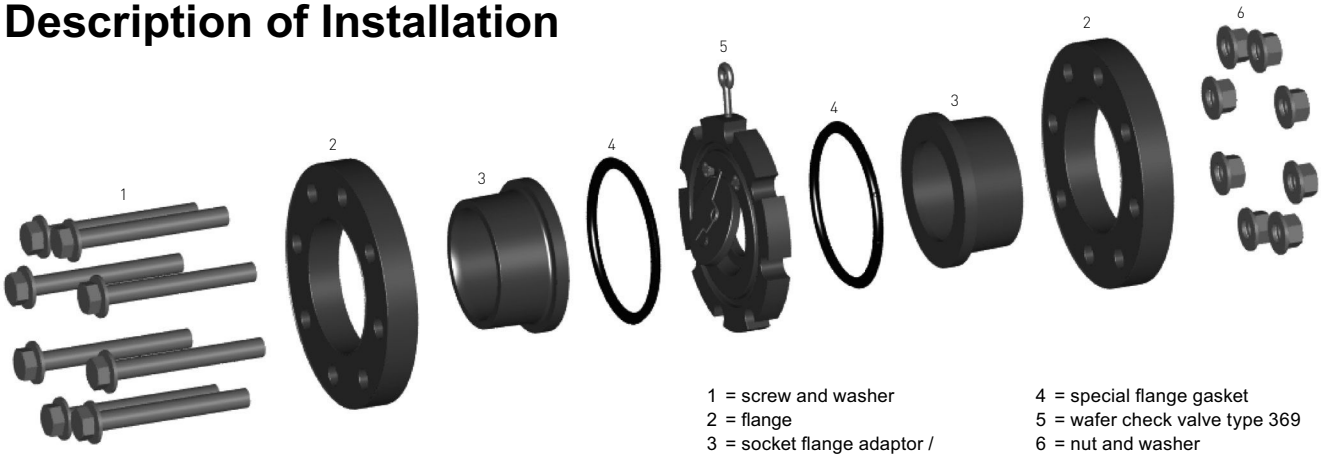


Pressure loss characteristic for wafer check valves PVDF, pipe PN 10



Measurements on valves in horizontal pipes, water at 20 °C

Description of Installation



1 = screw and washer
2 = flange
3 = socket flange adaptor / butt fusion flange adaptor
4 = special flange gasket
5 = wafer check valve type 369
6 = nut and washer

Before installing

- Keep enough space between both flanges
- Function and tightness testing (reset spring and seals)
- Fixing of supporting eylet in the provided thread

While installing

- Put the wafer check valve in closed position
- Attention on the wanted flow direction
- Move the wafer check valve with the seals between both flange ends
- Realign the pipeline. Make sure that the disc can be fully opened and that the disk attach on the inner pipe wall.
- Fasten the wafer check valve with flange screws (see chapter 5.5)

After installing

- Do another functional test
- Carry out an leakage test

Centering and Opening Angle of The Valve

Make sure that the disk attach on the inner pipe wall. It is not allowed that the disk attach on the limit stop of the valve.

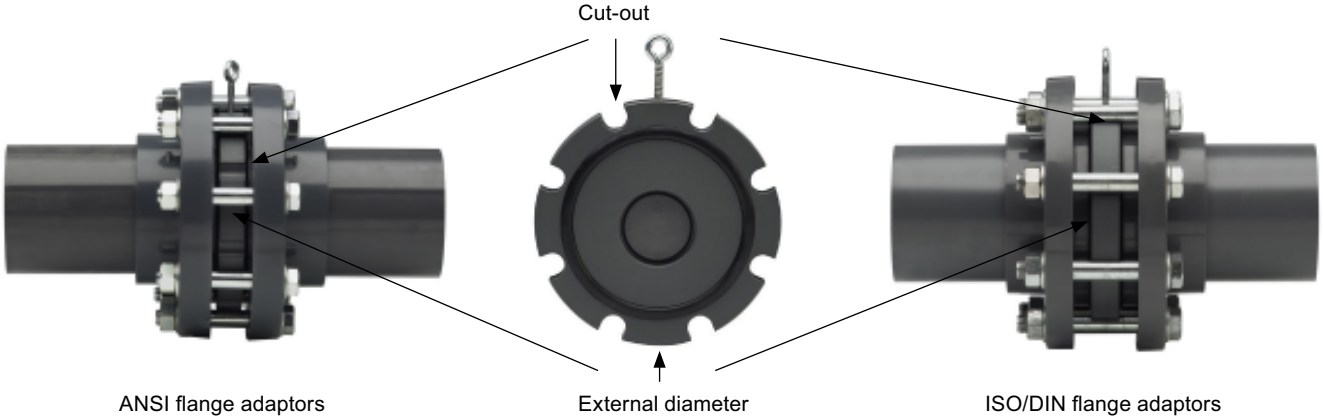
The geometry of the wafer check valve ensures a optimal positioning and mounting between ISO/DIN and also of ANSI flange adapters. The supporting eylets will help during centering the valve.

Wafer check valve PVC-U

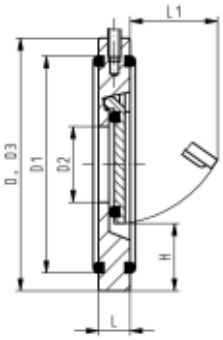
- Centring on ISO/DIN adaptors over the cut-out
- Centring on ANSI over the external diameter of the valve

Wafer check valves PP and PVDF

- Centring over the external diameter of the valve



Wafer Check Valves PVC-U



Wafer check valve type 369 PVC-U Without spring

New

Model:

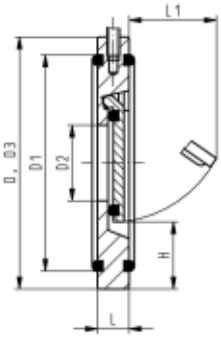
- Supporting eyelets for simple fitting
- Suitable for vertical and horizontal mounting

Installation instruction:

- Installation between ISO/DIN (all dimensions) and ANSI flange adaptors (all except DN32 and DN125)
- Installation with ANSI flange adaptor: for wafer check valves DN40 to DN80 you have to use ANSI flange adaptors with the next bigger dimension (example DN40 wafer check valve between DN50 ANSI flange adaptor)
- Centering by body diameter (ISO/DIN by D3, ANSI by D)
- Sealing with special flange gasket (except DN32, o-ring)
- A stabilizing zone of at least 5 times nominal diameter (DN) should be provided before and after the wafer check valve (10 times DN is recommended)
- No direct installation on pump flange or following bend allowed
- The using of PVC-U pipe PN16 is only possible up to d63
- Wafer check valves without reset spring are not recommended for pulsating flows (production of noise)

d [mm]	DN [mm]	Inch	PN	EPDM Code	FPM Code	SP	kg
40	32	1 ¼	6	**161 369 002**	**161 369 022**	1	0.130
50	40	1 ½	6	**161 369 003**	**161 369 023**	1	0.160
63	50	2	6	**161 369 004**	**161 369 024**	1	0.250
75	65	2 ½	6	**161 369 005**	**161 369 025**	1	0.320
90	80	3	6	**161 369 006**	**161 369 026**	1	0.390
110	100	4	6	**161 369 007**	**161 369 027**	1	0.550
140	125	4	6	**161 369 009**	**161 369 029**	1	0.750
160	150	5	6	**161 369 010**	**161 369 030**	1	1.100
225	200	6	6	**161 369 011**	**161 369 031**	1	2.100
280	250	8	6	**161 369 012**	**161 369 032**	1	3.500
315	300	10	6	**161 369 013**	**161 369 033**	1	5.300

d [mm]	D [mm]	D1 [mm]	D2 [mm]	D3 [mm]	L [mm]	L1 [mm]	H [mm]	Opening pressure vertical [mbar]	Opening pressure horizontal [mbar]	Minimum water column for sealing [m]
40	85	59	18	85	15	22	25	10	1	2.0
50	105	74	22	95	16	27	27	10	1	2.0
63	124	90	32	109	18	40	29	10	1	2.0
75	137	110	40	129	20	55	31	10	1	2.0
90	175	125	54	144	20	67	32	10	1	2.0
110	175	150	70	164	23	67	31	10	1	2.0
140	195	178	92	195	23	94	35	10	1	2.0
160	222	192	105	220	26	100	41	10	1	2.0
225	279	256	154	275	35	152	38	18	1	2.0
280	340	306	192	330	40	180	41	18	1	2.0
315	410	342	227	380	45	215	41	18	1	2.0



Wafer check valve type 369 PVC-U
With V4A spring (stainless steel 316)

New

Model:

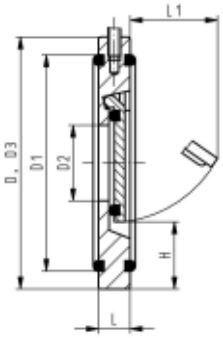
- Supporting eyelets for simple fitting
- Suitable for vertical and horizontal mounting

Installation instruction:

- Installation between ISO/DIN (all dimensions) and ANSI flange adaptors (all except DN32 and DN125)
- Installation with ANSI flange adaptor: for wafer check valves DN40 to DN80 you have to use ANSI flange adaptors with the next bigger dimension (example DN40 wafer check valve between DN50 ANSI flange adaptor)
- Centering by body diameter (ISO/DIN by D3, ANSI by D)
- Sealing with special flange gasket (except DN32, o-ring)
- A stabilizing zone of at least 5 times nominal diameter (DN) should be provided before and after the wafer check valve (10 times DN is recommended)
- No direct installation on pump flange or following bend allowed
- The using of PVC-U pipe PN16 is only possible up to d63

d [mm]	DN [mm]	Inch	PN	EPDM Code	FPM Code	SP	kg
40	32	1 ¼	6	**161 369 042**	**161 369 062**	1	0.130
50	40	1 ½	6	**161 369 043**	**161 369 063**	1	0.160
63	50	2	6	**161 369 044**	**161 369 064**	1	0.250
75	65	2 ½	6	**161 369 045**	**161 369 065**	1	0.320
90	80	3	6	**161 369 046**	**161 369 066**	1	0.390
110	100	4	6	**161 369 047**	**161 369 067**	1	0.550
140	125	4	6	**161 369 049**	**161 369 069**	1	0.750
160	150	5	6	**161 369 050**	**161 369 070**	1	1.100
225	200	6	6	**161 369 051**	**161 369 071**	1	2.100
280	250	8	6	**161 369 052**	**161 369 072**	1	3.500
315	300	10	6	**161 369 053**	**161 369 073**	1	5.300

d [mm]	D [mm]	D1 [mm]	D2 [mm]	D3 [mm]	L [mm]	L1 [mm]	H [mm]	Opening pressure vertical [mbar]	Opening pressure horizontal [mbar]	Minimum water column for sealing [m]
40	85	59	18	85	15	22	25	30	20	2.0
50	105	74	22	95	16	27	27	30	20	2.0
63	124	90	32	109	18	40	29	30	20	2.0
75	137	110	40	129	20	55	31	30	20	2.0
90	175	125	54	144	20	67	32	30	20	2.0
110	175	150	70	164	23	67	31	30	20	2.0
140	195	178	92	195	23	94	35	30	20	2.0
160	222	192	105	220	26	100	41	30	20	2.0
225	279	256	154	275	35	152	38	38	20	2.0
280	340	306	192	330	40	180	41	38	20	2.0
315	410	342	227	380	45	215	41	38	20	2.0



Wafer check valve type 369 PVC-U
With Hastelloy C spring

New

Model:

- Supporting eyelets for simple fitting
- Suitable for vertical and horizontal mounting

Installation instruction:

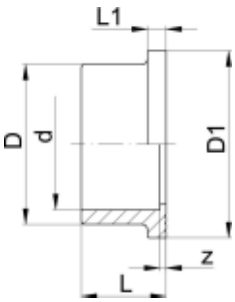
- Installation between ISO/DIN (all dimensions) and ANSI flange adaptors (all except DN32 and DN125)
- Installation with ANSI flange adaptor: for wafer check valves DN40 to DN80 you have to use ANSI flange adaptors with the next bigger dimension (example DN40 wafer check valve between DN50 ANSI flange adaptor)
- Centering by body diameter (ISO/DIN by D3, ANSI by D)
- Sealing with special flange gasket (except DN32, o-ring)
- A stabilizing zone of at least 5 times nominal diameter (DN) should be provided before and after the wafer check valve (10 times DN is recommended)
- No direct installation on pump flange or following bend allowed
- The using of PVC-U pipe PN16 is only possible up to d63

d [mm]	DN [mm]	Inch	PN	EPDM Code	FPM Code	SP	kg
40	32	1 ¼	6	**161 369 082**	**161 369 102**	1	0.130
50	40	1 ½	6	**161 369 083**	**161 369 103**	1	0.160
63	50	2	6	**161 369 084**	**161 369 104**	1	0.250
75	65	2 ½	6	**161 369 085**	**161 369 105**	1	0.320
90	80	3	6	**161 369 086**	**161 369 106**	1	0.390
110	100	4	6	**161 369 087**	**161 369 107**	1	0.550
140	125	4	6	**161 369 089**	**161 369 109**	1	0.750
160	150	5	6	**161 369 090**	**161 369 110**	1	1.100
225	200	6	6	**161 369 091**	**161 369 111**	1	2.100
280	250	8	6	**161 369 092**	**161 369 112**	1	3.500
315	300	10	6	**161 369 093**	**161 369 113**	1	5.300

d [mm]	D [mm]	D1 [mm]	D2 [mm]	D3 [mm]	L [mm]	L1 [mm]	H [mm]	Opening pressure vertical [mbar]	Opening pressure horizontal [mbar]	Minimum water column for sealing [m]
40	85	59	18	85	15	22	25	30	20	2.0
50	105	74	22	95	16	27	27	30	20	2.0
63	124	90	32	109	18	40	29	30	20	2.0
75	137	110	40	129	20	55	31	30	20	2.0
90	175	125	54	144	20	67	32	30	20	2.0
110	175	150	70	164	23	67	31	30	20	2.0
140	195	178	92	195	23	94	35	30	20	2.0
160	222	192	105	220	26	100	41	30	20	2.0
225	279	256	154	275	35	152	38	38	20	2.0
280	340	306	192	330	40	180	41	38	20	2.0
315	410	342	227	380	45	215	41	38	20	2.0

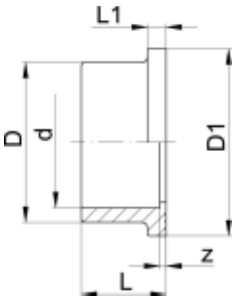
Valve Ends PVC-U

Flange Adaptors, PVC-U
Combined Jointing face flat and serrated, metric



d [mm]	DN [mm]	PN	Code	SP	kg	z [mm]	D [mm]	D1 [mm]	L [mm]	L1 [mm]
40	32	16	**721 800 109**	10	0.038	3	50	61	29	8
50	40	16	**721 800 110**	10	0.058	3	61	73	34	8
63	50	16	**721 790 111**	10	0.103	3	77	90	41	9
75	65	16	**721 790 112**	10	0.155	3	91	106	47	10
90	80	16	**721 790 113**	10	0.254	5	108	125	56	11
110	100	16	**721 790 114**	10	0.418	5	131	150	66	12
140	125	16	**721 790 116**	6	0.740	5	165	188	81	14
160	150	16	**721 790 117**	2	1.077	5	188	213	91	16
225	200	10	**721 790 120**	2	1.758	6	248	274	125	25
280	250	10	**721 790 122**	1	2.895	5	308	329	151	23
315	300	6	**721 790 123**	1	4.450	8	346	379	172	27

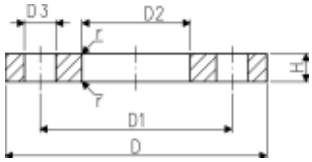
Flange Adaptors, PVC-U
Jointing face serrated, BS Inch



DN [mm]	PN	Code	SP	kg	z [mm]	D [mm]	D1 [mm]	L [mm]	L1 [mm]
32	15	**721 791 109**	-	0.036	3	50	61	32	8
40	15	**721 791 110**	10	0.048	3	61	73	33	8
50	15	**721 791 111**	5	0.107	3	77	91	40	9
65	16	**721 790 112**	10	0.155	3	91	106	47	10
80	15	**721 791 113**	20	0.225	5	108	125	56	11
100	15	**721 791 115**	10	0.430	5	136	155	69	12
125	16	**721 790 116**	6	0.740	5	165	188	81	14
150	15	**721 791 117**	2	1.250	5	198	217	96	16
200	9	**721 791 120**	2	2.035	6	248	274	122	20
250	9	**721 791 122**	1	3.020	9	307	329	151	23
300	6	**721 791 123**	1	3.400	4	346	379	172	27

Flanges

Backing Flanges, PVC-U metric



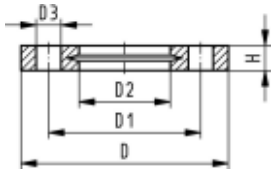
Model:

- For socket systems
- Connecting dimension: ISO 7005, EN 1092, BS 4504, DIN 2501; bolt circle PN 10
- Maximum medium- or ambient temperature 45 °C

* Connecting dimension: ISO 2536
AL: number of holes

d [mm]	DN [mm]	Inch	PN	Code	kg	D [mm]	D1 [mm]	D2 [mm]	D3 [mm]	H [mm]	r [mm]	AL	SC
40	32	1 ¼	10	**721 700 009**	0.194	140	100	51	18	15	2	4	M16
50	40	1 ½	10	**721 700 010**	0.245	150	110	62	18	16	2	4	M16
63	50	2	10	**721 700 011**	0.311	165	125	78	18	18	3	4	M16
75	65	2 ½	10	**721 700 012**	0.375	185	145	92	18	19	3	4	M16
90	80	3	10	**721 700 013**	0.471	200	160	110	18	20	3	8	M16
110	100	4	10	**721 700 014**	0.554	220	180	133	18	22	3	8	M16
140	125	5	10	**721 700 016**	0.746	250	210	167	18	26	4	8	M16
160	150	6	10	**721 700 017**	1.016	285	240	190	22	28	4	8	M20
225	200	8	10	**721 700 020**	1.380	340	295	250	22	32	4	8	M20
280	250	10	6	**721 700 137**	1.730	395	350	310	22	36	4	12	M20
315	300	12	6	**721 700 138**	2.350	445	400	348	22	36	4	12	M20

Backing Flanges, PP-V for Socket Systems metric

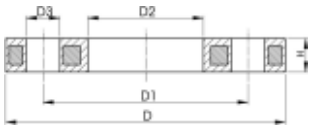


Model:

- Modern full-plastic flange PP-GF (30 % glass-fibre reinforced)
- With V-groove which applies force evenly on collar
- With integrated bolt retainers as an assembly aid
- Connecting dimension: ISO 7005, EN 1092, BS 4504, DIN 2501; bolt circle PN 10

[1]) Suitable for socket- and butt fusion systems (no pictograph on flange)
AL: number of holes

d [mm]	Inch	DN [mm]	PN	Code	SP	kg	D [mm]	D1 [mm]	D2 [mm]	D3 [mm]	H [mm]	AL	SC
[1]40		32	16	**727 700 409**	40	0.220	140	100	51	18	20	4	M16
[1]50		40	16	**727 700 410**	30	0.210	150	110	62	18	22	4	M16
[1]63		50	16	**727 700 411**	25	0.380	165	125	78	18	24	4	M16
[1]75		65	16	**727 700 412**	19	0.480	185	145	92	18	26	4	M16
90		80	16	**727 700 413**	15	0.520	200	160	110	18	27	8	M16
110		100	16	**727 700 414**	13	0.680	220	180	133	18	28	8	M16
140		125	16	**727 700 416**	10	0.800	250	210	167	18	30	8	M16
160	6	150	16	**727 700 417**	-	1.200	285	241	190	22	32	8	M20
225	8	200	16	**727 700 420**	-	1.400	340	295	250	22	34	8	M20
280		250	16	**727 700 422**	-	1.700	395	350	310	22	38	12	M20
315		300	16	**727 700 423**	-	2.400	445	400	348	22	42	12	M20



Backing Flanges, PP/Steel for Socket Systems metric

Model:

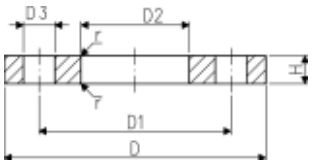
- PP-GF (30% glass-fibre reinforced) with steel ring
- Connecting dimension: ISO 7005, EN 1092, BS 4504, DIN 2501; bolt circle PN 10

[1] Connecting dimension: ISO 2536 DN125

* Connecting dimension: ISO 2536

AL: number of holes

d [mm]	DN [mm]	PN	Code	kg	D [mm]	D1 [mm]	D2 [mm]	D3 [mm]	H [mm]	AL	SC
40	32	16	**727 700 209**	0.650	140	100	51	18	16	4	M16
50	40	16	**727 700 210**	0.820	150	110	62	18	18	4	M16
63	50	16	**727 700 211**	0.940	165	125	78	18	18	4	M16
75	65	16	**727 700 212**	1.300	185	145	92	18	18	4	M16
90	80	16	**727 700 213**	1.400	200	160	110	18	20	8	M16
110	100	16	**727 700 214**	1.560	220	180	133	18	20	8	M16
140	125	16	**727 700 216**	2.120	250	210	167	18	24	8	M16
160	150	16	**727 700 217**	3.390	285	240	190	22	24	8	M20
225	200	16	**727 700 220**	4.410	340	295	250	22	27	8	M20
280	250	16	**727 700 222**	5.520	395	350	310	22	30	12	M20
315	300	16	**727 700 223**	7.600	445	400	348	22	34	12	M20



Backing Flanges, PVC-U inch

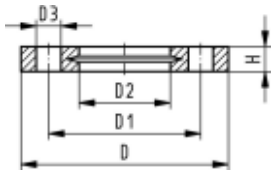
Model:

- For socket systems
- For Flange Adaptors BS/ANSI
- Connecting dimension: ANSI/ASME B 16.5 class 150, ASTM D 4024, BS 1560, BS EN 1759

* Only for use with metric flange adaptors

AL: number of holes

Inch	DN [mm]	d [mm]	PN	Code	SP	kg	D [mm]	D1 [mm]	D2 [mm]	D3 [mm]	H [mm]	r [mm]	AL
1 ¼	32		10	**721 702 209**	25	0.204	140	89	51	16	15	2	4
1 ½	40		10	**721 702 210**	20	0.253	150	98	62	16	16	2	4
2	50		10	**721 702 211**	30	0.305	165	121	78	19	18	3	4
2 ½	65		10	**721 702 212**	27	0.382	185	140	92	19	19	3	4
3	80		10	**721 702 213**	20	0.498	200	152	110	19	20	3	4
4	100		10	**721 702 214**	-	0.515	220	190	138	19	22	3	8
5	125		10	**721 702 216**	12	0.727	250	216	167	22	26	4	8
6	150		10	**721 702 217**	9	1.910	285	241	200	22	28	4	8
8	200		10	**721 702 220**	8	1.349	340	298	250	22	32	4	8



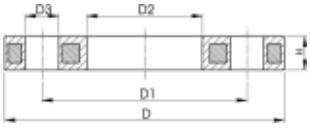
Backing Flanges, PP-V for Socket Systems Inch/ANSI

Model:

- Modern full-plastic flange PP-GF (30 % glass-fibre reinforced)
- With V-groove which applies force evenly on collar
- With integrated bolt-fixing as an assembly aid
- Connecting dimension: ANSI/ASME B 16.5 class 150, ASTM D 4024, BS 1560, BS EN 1759

[1]) Suitable for socket- and butt fusion systems (no pictograph on flange)
AL: number of holes

Inch	DN [mm]	PN	Code	kg	D [mm]	D1 [mm]	D2 [mm]	D3 [mm]	H [mm]	AL	SC
[1]1 ¼	32	16	**727 701 409**	0.220	140	89	51	16	20	4	M16
[1]1 ½	40	16	**727 701 410**	0.210	150	98	62	16	22	4	M16
[1]2	50	16	**727 701 411**	0.380	165	121	78	19	24	4	M16
[1]2 ½	65	16	**727 701 412**	0.480	185	140	92	19	26	4	M16
3	80	16	**727 701 413**	0.520	200	152	110	19	27	4	M16
4	100	16	**727 701 414**	0.680	229	190	133	19	28	8	M16
6	150	16	**727 700 417**	1.200	285	241	190	22	32	8	M20
8	200	16	**727 700 420**	1.400	340	295	250	22	34	8	M20
10	250	16	**727 701 422**	1.700	406	362	310	26	38	12	M20
12	300	16	**727 701 423**	2.400	483	432	348	26	42	12	M20



Backing Flanges, PP/Steel for Socket Systems Inch/ANSI

Model:

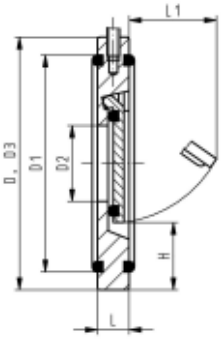
- For socket systems
- For Flange Adaptors BS/ANSI
- Material: PP (30 % glass-fibre reinforced) with steel ring
- Connecting dimension: ANSI/ASME B 16.5 class 150, ASTM D 4024, BS 1560, BS EN 1759

- DN100 and DN150: only for use with original metric flange adaptors

AL: number of holes

DN [mm]	d [mm]	PN	Code	kg	D1 [mm]	D2 [mm]	D3 [mm]	D [mm]	H [mm]	AL
32	40	16	**727 701 209**	0.670	89	51	16	140	16	4
40	50	16	**727 701 210**	0.860	98	62	16	150	18	4
50	63	16	**727 701 211**	0.930	121	78	19	165	18	4
65	75	16	**727 701 212**	1.340	140	92	19	185	18	4
80	90	16	**727 701 213**	1.550	152	110	19	200	20	4
100	110	16	**727 701 214**	1.810	190	133	19	229	20	8
150	160	16	**727 700 217**	3.390	240	190	22	285	24	8
200	200	16	**727 701 220**	4.410	298	250	22	340	27	8

Wafer Check Valves PP-H



PROGEF Standard
Wafer check valve type 369
Without spring

Model:

- Material: PP-H
- Supporting eyelets for simple fitting
- Suitable for vertical and horizontal mounting

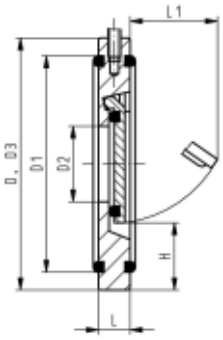
Installation instruction:

- Installation between metric flange adaptors
- It is necessary to use a special outlet flange adaptor PP or PE on the outgoing side of the wafer check valve
- Centering by body diameter
- Sealing with special flange gasket (except DN32, o-ring)
- A stabilizing zone of at least 5 times nominal diameter (DN) should be provided before and after the wafer check valve (10 times DN is recommended)
- No direct installation on pump flange or following bend allowed
- Wafer check valves without reset spring are not recommended for pulsating flows (production of noise)

Available with flange gasket from Q4 2008 on

d [mm]	DN [mm]	PN	EPDM Code	FPM Code	SP	kg
40	32	6	**167 369 002**	**167 369 022**	1	0.090
50	40	6	**167 369 003**	**167 369 023**	1	0.100
63	50	6	**167 369 004**	**167 369 024**	1	0.170
75	65	6	**167 369 005**	**167 369 025**	1	0.220
90	80	6	**167 369 006**	**167 369 026**	1	0.260
110	100	6	**167 369 007**	**167 369 027**	1	0.370
140	125	6	**167 369 009**	**167 369 029**	1	0.500
160	150	6	**167 369 010**	**167 369 030**	1	0.740
225	200	6	**167 369 011**	**167 369 031**	1	1.400
280	250	6	**167 369 012**	**167 369 032**	1	2.400
315	300	6	**167 369 013**	**167 369 033**	1	3.520

d [mm]	D [mm]	D1 [mm]	D2 [mm]	H [mm]	L [mm]	L1 [mm]	Opening pressure vertical [mbar]	Opening pressure horizontal [mbar]	Minimum water column for sealing [m]
40	85	59	18	25	15	22	10	1	3.0
50	95	72	22	28	16	27	10	1	3.0
63	109	86	32	29	18	40	10	1	3.0
75	129	105	40	31	20	55	10	1	3.0
90	144	119	54	32	20	67	10	1	3.0
110	164	146	70	31	23	67	10	1	3.0
140	195	173	92	35	23	94	10	1	3.0
160	220	197	105	42	26	100	10	1	3.0
225	275	255	154	38	35	152	18	1	3.0
280	330	312	192	41	40	180	18	1	3.0
315	380	363	227	41	45	215	18	1	3.0



PROGEF Standard
Wafer check valve type 369
With V4A spring (stainless steel 316)

Model:

- Material: PP-H
- Supporting eyelets for simple fitting
- Suitable for vertical and horizontal mounting

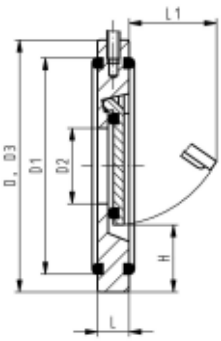
Installation instruction:

- Installation between metric flange adaptors
- It is necessary to use a special outlet flange adaptor PP or PE on the outgoing side of the wafer check valve
- Centering by body diameter
- Sealing with special flange gasket (except DN32, o-ring)
- A stabilizing zone of at least 5 times nominal diameter (DN) should be provided before and after the wafer check valve (10 times DN is recommended)
- No direct installation on pump flange or following bend allowed

Available with flange gasket from Q4 2008 on

d [mm]	DN [mm]	PN	EPDM Code	FPM Code	SP	kg
40	32	6	**167 369 042**	**167 369 062**	1	0.090
50	40	6	**167 369 043**	**167 369 063**	1	0.100
63	50	6	**167 369 044**	**167 369 064**	1	0.170
75	65	6	**167 369 045**	**167 369 065**	1	0.220
90	80	6	**167 369 046**	**167 369 066**	1	0.260
110	100	6	**167 369 047**	**167 369 067**	1	0.370
140	125	6	**167 369 049**	**167 369 069**	1	0.500
160	150	6	**167 369 050**	**167 369 070**	1	0.740
225	200	6	**167 369 051**	**167 369 071**	1	1.400
280	250	6	**167 369 052**	**167 369 072**	1	2.400
315	300	6	**167 369 053**	**167 369 073**	1	3.520

d [mm]	D [mm]	D1 [mm]	D2 [mm]	H [mm]	L [mm]	L1 [mm]	Opening pressure vertical [mbar]	Opening pressure horizontal [mbar]	Minimum water column for sealing [m]
40	85	59	18	25	15	22	30	20	3.0
50	95	72	22	28	16	27	30	20	3.0
63	109	86	32	29	18	40	30	20	3.0
75	129	105	40	31	20	55	30	20	3.0
90	144	119	54	32	20	67	30	20	3.0
110	164	146	70	31	23	67	30	20	3.0
140	195	173	92	35	23	94	30	20	3.0
160	220	197	105	42	26	100	30	20	3.0
225	275	255	154	38	35	152	38	20	3.0
280	330	312	192	41	40	180	38	20	3.0
315	380	363	227	41	45	215	38	20	3.0



PROGEF Standard
Wafer check valve type 369
With Hastelloy C spring

Model:

- Material: PP-H
- Supporting eyelets for simple fitting
- Suitable for vertical and horizontal mounting

Installation instruction:

- Installation between metric flange adaptors
- It is necessary to use a special outlet flange adaptor PP or PE on the outgoing side of the wafer check valve
- Centering by body diameter
- Sealing with special flange gasket (except DN32, o-ring)
- A stabilizing zone of at least 5 times nominal diameter (DN) should be provided before and after the wafer check valve (10 times DN is recommended)
- No direct installation on pump flange or following bend allowed

Available with flange gasket from Q4 2008 on

d [mm]	DN [mm]	PN	EPDM Code	FPM Code	SP	kg
40	32	6	**167 369 082**	**167 369 102**	1	0.090
50	40	6	**167 369 083**	**167 369 103**	1	0.100
63	50	6	**167 369 084**	**167 369 104**	1	0.170
75	65	6	**167 369 085**	**167 369 105**	1	0.220
90	80	6	**167 369 086**	**167 369 106**	1	0.260
110	100	6	**167 369 087**	**167 369 107**	1	0.370
140	125	6	**167 369 089**	**167 369 109**	1	0.500
160	150	6	**167 369 090**	**167 369 110**	1	0.740
225	200	6	**167 369 091**	**167 369 111**	1	1.400
280	250	6	**167 369 092**	**167 369 112**	1	2.400
315	300	6	**167 369 093**	**167 369 113**	1	3.520

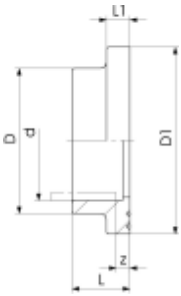
d [mm]	D [mm]	D1 [mm]	D2 [mm]	H [mm]	L [mm]	L1 [mm]	Opening pressure vertical [mbar]	Opening pressure horizontal [mbar]	Minimum water column for sealing [m]
40	85	59	18	25	15	22	30	20	3.0
50	95	72	22	28	16	27	30	20	3.0
63	109	86	32	29	18	40	30	20	3.0
75	129	105	40	31	20	55	30	20	3.0
90	144	119	54	32	20	67	30	20	3.0
110	164	146	70	31	23	67	30	20	3.0
140	195	173	92	35	23	94	30	20	3.0
160	220	197	105	42	26	100	30	20	3.0
225	275	255	154	38	35	152	38	20	3.0
280	330	312	192	41	40	180	38	20	3.0
315	380	363	227	41	45	215	38	20	3.0

Valve Ends PP-H, PE

PROGEF Standard, Flange Adaptor Jointing face flat/serrated

Model:

- Material: PP-H
- Counterpart: Flange Adaptor flat/serrated or with O-ring groove
- Connection: according to EN ISO 15494-1
- Gasket: Profile flange gasket EPDM No. 48 44 07, FPM No. 49 44 07
- Flanges: PP with steel core, No. 27 70 02, PP-V, No. 27 70 04

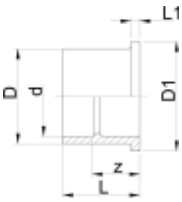


d [mm]	PN	Code	SP	kg	D [mm]	D1 [mm]	L [mm]	L1 [mm]	z [mm]
40	10	**727 790 209**	10	0.046	50	78	25	11	5
50	10	**727 790 210**	5	0.062	61	88	28	12	5
63	10	**727 790 211**	5	0.090	76	102	32	14	5
75	10	**727 790 212**	10	0.163	90	122	36	16	5
90	10	**727 790 213**	10	0.233	108	138	42	17	7
110	10	**727 790 214**	10	0.319	131	158	48	18	7

PROGEF Standard, Outlet Flange Adaptor Jointing Face flat

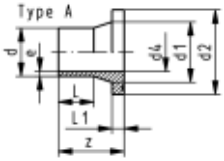
Model:

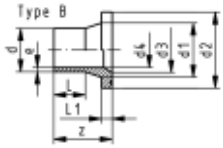
- Material: PP-H
- With fusion socket metric
- Suitable for wafer check valves Type 369
- To be installed on the outlet side of the valve
- Use flanges PP-V 27 70 04



d [mm]	DN [mm]	PN	Code	SP	kg	D [mm]	D1 [mm]	L [mm]	L1 [mm]	z [mm]
40	32	6	**727 800 009**	-	0.060	50	78	55	11	35
50	40	6	**727 800 010**	-	0.080	61	88	61	12	38
63	50	6	**727 800 011**	-	0.130	76	102	69	14	41
75	65	6	**727 800 012**	-	0.160	90	122	79	16	49
90	80	6	**727 800 013**	-	0.270	107	138	100	17	65
110	100	6	**727 800 014**	-	0.480	130	158	105	18	62

*





PROGEF Standard, Flange Adaptor, S5/SDR11 Combined Jointing Face: Flat and Serrated

New

Model:

- Material: PP-H
- Conventional butt-welding according to DVS 2207 part 11
- IR = Infrared-(IR Plus®) compatible. Please choose fusion parameters: PP-H
- Suitable for flange connections to metric **(from d110 also to ANSI/ASME B16.5)**
- Up to d315, suitable for butterfly valve type 567, 568 and 037
- Gasket: Profile flange gasket EPDM No. 48 44 07, FPM No. 49 44 07

* Type B with chamfer

d [mm]	DN [mm]	FM	Code	SP	kg
40	32	IR	**727 798 709**	10	0.064
50	40	IR	**727 798 710**	20	0.088
63	50	IR	**727 798 711**	10	0.144
*75	65	IR	**727 798 712**	10	0.243
*90	80	IR	**727 798 713**	12	0.326
*110	100	IR	**727 798 714**	8	0.441
*140	125	IR	**727 798 716**	10	0.800
*160	150	IR	**727 798 717**	4	0.920
*225	200	IR	**727 798 720**	2	1.700
*280	250		**727 798 722**	1	2.610
*315	300		**727 798 723**	1	3.410

d [mm]	DN [mm]	z [mm]	d1 [mm]	d2 [mm]	d3 [mm]	d4 [mm]	L [mm]	L1 [mm]	e [mm]
40	32	56	49	78		32	25	11	3.7
50	40	62	60	88		40	32	12	4.6
63	50	68	75	102		51	38	14	5.8
*75	65	80	89	122	66	61	43	16	6.9
*90	80	80	105	138	78	73	41	17	8.2
*110	100	80	125	158	100	90	40	18	10.0
*140	125	89	155	188	127	114	39	25	12.8
*160	150	92	175	212	151	131	45	25	14.6
*225	200	100	235	268	210	184	35	32	20.5
*280	250	100	291	320	265	229	35	35	25.4
*315	300	100	335	370	300	257	25	35	28.6

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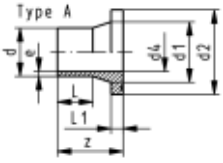
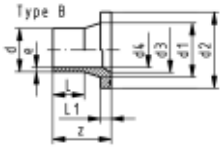




PROGEF Standard, Flange Adaptor, S8.3/SDR17.6 Combined Jointing Face: Flat and Serrated

New

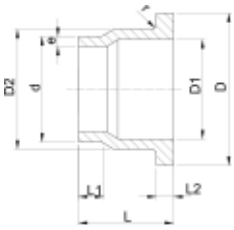
Model:

- Material: PP-H
- Conventional butt-welding according to DVS 2207 part 11
- IR = Infrared-(IR Plus®) compatible. Please choose fusion parameters: PP-H
- Suitable for flange connections to metric **(from d110 also to ANSI/ASME B16.5)**
- Up to d315, suitable for butterfly valve type 567, 568 and 037
- Gasket: Profile flange gasket EPDM No. 48 44 07, FPM No. 49 44 07

* Type B with chamfer

d [mm]	DN [mm]	FM	Code	SP	kg
50	40	IR	**727 798 785**	40	0.070
63	50	IR	**727 798 786**	30	0.100
75	65	IR	**727 798 787**	10	0.203
90	80	IR	**727 798 788**	12	0.273
110	100	IR	**727 798 789**	8	0.363
*140	125	IR	**727 798 791**	10	0.499
*160	150	IR	**727 798 792**	4	0.770
*225	200	IR	**727 798 795**	2	1.350
*280	250		**727 798 797**	1	2.030
*315	300		**727 798 798**	1	2.200

d [mm]	z [mm]	d1 [mm]	d2 [mm]	d3 [mm]	d4 [mm]	L [mm]	L1 [mm]	e [mm]
50	50	61	88		42	21	12	3.0
63	50	75	102		53	16	14	3.8
75	80	89	122		65	43	16	4.5
90	80	105	138		78	41	17	5.4
110	80	125	158		96	40	18	6.6
*140	80	155	188	127	120	34	18	8.3
*160	92	175	212	158	142	45	25	9.1
*225	100	235	268	210	199	35	32	12.8
*280	100	291	320	265	243	45	25	16.6
*315	100	335	370	300	274	35	25	18.7



PROGEF Standard, Outlet Flange Adaptors, S5/SDR11

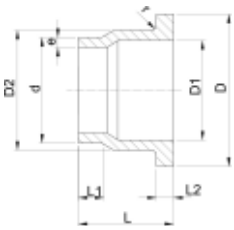
Model:

- Material: PP-R unpigmented
- Conventional butt-welding according to DVS 2207 part 11
- To wafer check valves Type 369

Attention:

- In conjunction with outlet flange adaptors, **flange rings for socket systems** must be used.

d [mm]	DN [mm]	Code	kg	D [mm]	D1 [mm]	D2 [mm]	L [mm]	L1 [mm]	L2 [mm]	e [mm]	r [mm]
40	32	**727 808 034**	0.064	80	37	50	64	30	11	3,7	3
50	40	**727 808 035**	0.088	90	43	61	67	30	12	4,6	3
63	50	**727 808 036**	0.126	105	54	76	74	30	14	5,8	4
75	65	**727 808 037**	0.187	125	70	90	78	30	16	6,8	4
90	80	**727 808 038**	0.346	140	82	108	87	35	17	8,2	4
110	100	**727 808 039**	0.500	160	105	131	102	41	18	10,0	4
140	125	**727 808 041**	0.710	190	130	165	124	47	25	12,7	4
160	150	**727 808 042**	0.910	215	158	188	149	52	25	14,6	4
225	200	**727 808 045**	1.830	270	206	248	180	55	32	20,5	4
280	250	**727 808 047**	3.550	325	259	308	240	63	35	25,4	4
315	300	**727 808 048**	4.960	375	308	346	272	66	35	28,6	4



PROGEF Standard, Outlet Flange Adaptors, S8,3/SDR17,6

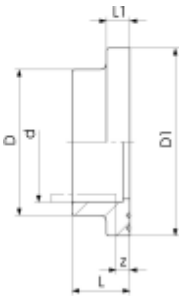
Model:

- Material: PP-R unpigmented
- Conventional butt-welding according to DVS 2207 part 11
- To wafer check valves Type 369

Attention:

- In conjunction with outlet flange adaptors, **flange rings for socket systems** must be used.

d [mm]	DN [mm]	Code	SP	kg	D [mm]	D1 [mm]	D2 [mm]	L [mm]	L1 [mm]	L2 [mm]	e [mm]	r [mm]
40	32	**727 808 009**	-	0.048	80	37	50	64	30	11	2,3	3
50	40	**727 808 010**	-	0.067	90	43	61	67	30	12	2,9	3
63	50	**727 808 011**	-	0.096	105	54	76	74	30	14	3,6	4
75	65	**727 808 012**	-	0.170	125	70	90	78	30	16	4,3	4
90	80	**727 808 013**	-	0.260	140	82	108	87	35	17	5,1	4
110	100	**727 808 014**	-	0.355	160	105	131	102	41	18	6,3	4
140	125	**727 808 016**	-	0.500	190	130	165	124	47	18	8,0	4
160	150	**727 808 017**	-	0.630	215	158	188	149	52	18	9,1	4
225	200	**727 808 020**	-	1.225	270	206	248	180	55	24	12,7	4
280	250	**727 808 022**	-	2.230	325	259	308	240	63	25	15,9	4
315	300	**727 808 023**	-	2.450	375	308	346	272	66	25	17,9	4

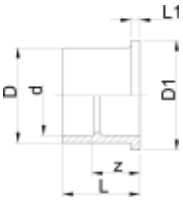


Flange Adaptors, PE100
Jointing face flat/serrated

Model:

- Counterpart: Flange Adaptor flat/serrated or with O-ring groove
- Connection: according to EN ISO 15494-, DIN 16963-11
- Gasket: Profile flange gasket EPDM No. 48 44 07, FPM No. 49 44 07
- Flanges: PP with steel core, No. 27 70 02, PP-V, No 27 70 04

d [mm]	PN	Code	SP	kg	D [mm]	D1 [mm]	L [mm]	L1 [mm]	z [mm]
40	10	**753 790 209**	10	0.052	50	78	25	11	5
50	10	**753 790 210**	5	0.069	61	88	28	12	5
63	10	**753 790 211**	5	0.102	76	102	32	14	5
75	10	**753 790 212**	10	0.163	90	122	36	16	5
90	10	**753 790 213**	10	0.233	108	138	42	17	7
110	10	**753 790 214**	10	0.319	131	158	48	18	7

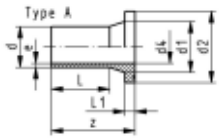


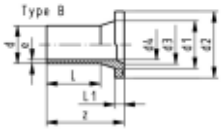
Outlet Flange Adaptor, PE80
Jointing Face flat

Model:

- With fusion socket metric
- Suitable for wafer check valves Type 369
- To be installed on the outlet side of the valve

d [mm]	DN [mm]	PN	Code	SP	kg	D [mm]	D1 [mm]	L [mm]	L1 [mm]	z [mm]
40	32	6	**733 800 009**	-	0.060	50	78	55	11	35
50	40	6	**733 800 010**	-	0.080	61	88	61	12	38
63	50	6	**733 800 011**	-	0.130	76	102	69	14	41
75	65	6	**733 800 012**	-	0.160	90	122	79	16	49
90	80	6	**733 800 013**	-	0.270	107	138	100	17	65
110	100	6	**733 800 014**	-	0.480	130	158	105	18	62





Flange Adaptor LS, PE100 SDR11
Combined Jointing Face:
Flat and serrated

New

Model:

- For butt-, IR Plus® and electro fusion
- Suitable for flange connections to metric **(from d110 also to ANSI/ASME B16.5)**
- Up to d315, suitable for butterfly valve type 567, 568 and 037
- Gasket: Profile flange gasket NBR No. 45 44 07, EPDM No. 48 44 07
- 10 bar Gas / 16 bar Water

* Type B with chamfer

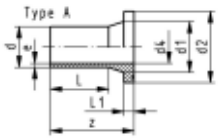
d [mm]	DN [mm]	FM	Code	SP	kg
40	32	IR	**753 800 009**	2	0.076
50	40	IR	**753 800 010**	5	0.107
63	50	IR	**753 800 011**	2	0.174
75	65	IR	**753 800 012**	2	0.301
90	80	IR	**753 800 013**	2	0.441
*110	100	IR	**753 800 014**	1	0.685
*140	125	IR	**753 800 016**	1	1.295
*160	150	IR	**753 800 017**	1	1.644
*225	200	IR	**753 800 020**	1	2.972
*280	250		**753 800 022**	1	4.925
*315	300		**753 800 023**	1	6.393

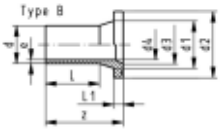
d [mm]	DN [mm]	z [mm]	d1 [mm]	d2 [mm]	d3 [mm]	d4 [mm]	L [mm]	L1 [mm]	e [mm]
40	32	85	50	78		32	49	11	3.7
50	40	104	61	88		40	55	12	4.6
63	50	98	75	102		51	65	14	5.8
75	65	125	89	122		61	75	16	6.8
90	80	140	105	138		73	85	17	8.2
*110	100	160	125	158	100	90	90	18	10.0
*140	125	200	155	188	127	114	92	25	12.7
*160	150	200	175	212	151	130	110	25	14.6
*225	200	200	235	268	210	184	130	32	20.5
*280	250	220	291	320	265	229	139	35	25.4
*315	300	230	335	370	300	257	150	35	28.6

Flange Adaptor LS, PE100 SDR17/17.6 Combined Jointing Face: Flat and serrated

Model:

- For butt-, IR Plus® and electro fusion
- Suitable for flange connections to **ANSI/ASME B 16.5**
- Up to d315, suitable for butterfly valve type 567, 568 and 037
- Gasket: Profile flange gasket NBR No. 45 44 07, EPDM No. 48 44 07
- 5 bar Gas / 10 bar Water

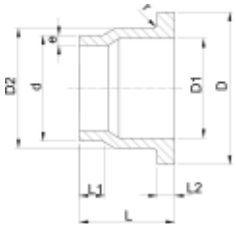




* Type B with chamfer

d [mm]	DN [mm]	FM	Code	SP	kg
50	40	IR	**753 800 085**	5	0.110
63	50	IR	**753 800 086**	2	0.143
75	65	IR	**753 800 087**	2	0.246
90	80	IR	**753 800 088**	2	0.351
110	100	IR	**753 800 089**	1	0.531
*140	125	IR	**753 800 091**	1	0.973
*160	150	IR	**753 800 092**	1	1.257
*225	200	IR	**753 800 095**	1	2.233
*280	250		**753 800 097**	1	3.355
*315	300		**753 800 098**	1	4.617

d [mm]	z [mm]	d1 [mm]	d2 [mm]	d3 [mm]	d4 [mm]	L [mm]	L1 [mm]	e [mm]
50	104	61	88		44	55	12	3.0
63	120	75	102		55	65	14	3.8
75	130	89	122		66	75	16	4.5
90	140	105	138		79	85	17	5.4
110	160	125	158		96	90	18	6.6
*140	200	155	188	127	123	92	25	8.3
*160	200	175	212	158	141	110	25	9.5
*225	200	235	268	210	198	130	32	13.4
*280	220	291	320	265	246	139	35	16.6
*315	230	335	370	308	277	150	35	18.7



Outlet Flange Adaptors, PE80 S5/SDR11

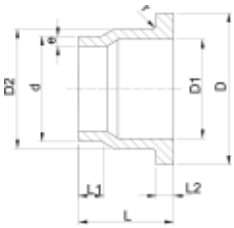
Model:

- Conventional butt-welding according to DVS 2207 part 11
- Suitable for wafer check valves Type 369

Attention:

- In conjunction with outlet flange adaptors, **flange rings for socket systems** must be used.

d [mm]	DN [mm]	Code	SP	kg	D [mm]	D1 [mm]	D2 [mm]	L [mm]	L1 [mm]	L2 [mm]	e [mm]	r [mm]
40	32	**733 808 034**	-	0.064	80	37	50	64	30	11	3,7	3
50	40	**733 808 035**	-	0.088	90	43	61	67	30	12	4,6	3
63	50	**733 808 036**	-	0.126	105	54	76	74	30	14	5,8	4
75	65	**733 808 037**	-	0.187	125	70	90	78	30	16	6,8	4
90	80	**733 808 038**	-	0.346	140	82	108	87	35	17	8,2	4
110	100	**733 808 039**	-	0.500	160	105	131	102	41	18	10,0	4
140	125	**733 808 041**	-	0.710	190	130	165	124	47	25	12,7	4
160	150	**733 808 042**	-	0.910	215	158	188	149	52	25	14,6	4
225	200	**733 808 045**	-	1.830	270	206	248	180	55	32	20,5	4
280	250	**733 808 047**	-	3.550	325	259	308	240	63	35	25,4	4
315	300	**733 808 048**	-	4.960	375	308	346	272	66	35	28,6	4



Outlet Flange Adaptors, PE80 S8,3/SDR17,6

Model:

- Conventional butt-welding according to DVS 2207 part 11
- Suitable for wafer check valves Type 369

Attention:

- In conjunction with outlet flange adaptors, **flange rings for socket systems** must be used.

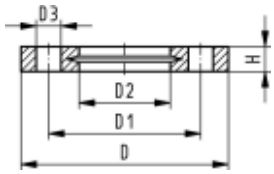
d [mm]	DN [mm]	Code	SP	kg	D [mm]	D1 [mm]	D2 [mm]	L [mm]	L1 [mm]	L2 [mm]	e [mm]	r [mm]
40	32	**733 808 009**	-	0.060	80	37	50	64	30	11	2,3	3
50	40	**733 808 010**	-	0.067	90	43	61	67	30	12	2,9	3
63	50	**733 808 011**	-	0.096	105	54	76	74	30	14	3,6	4
75	65	**733 808 012**	-	0.170	125	70	90	78	30	16	4,3	4
90	80	**733 808 013**	-	0.260	140	82	108	87	35	17	5,1	4
110	100	**733 808 014**	-	0.355	160	105	131	102	41	18	6,3	4
140	125	**733 808 016**	-	0.500	190	130	165	124	47	18	8,0	4
160	150	**733 808 017**	-	0.630	215	158	188	149	52	18	9,1	4
225	200	**733 808 020**	-	1.225	270	206	248	180	55	24	12,8	4
280	250	**733 808 022**	-	2.230	325	259	308	240	63	25	15,9	4
315	300	**733 808 023**	-	2.450	375	308	346	272	66	25	17,9	4

Flanges

Backing Flanges, PP-V for Socket Systems metric

Model:

- Modern full-plastic flange PP-GF (30 % glass-fibre reinforced)
- With V-groove which applies force evenly on collar
- With integrated bolt retainers as an assembly aid
- Connecting dimension: ISO 7005, EN 1092, BS 4504, DIN 2501; bolt circle PN 10



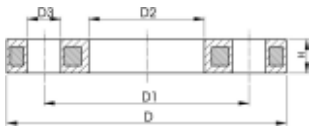
[1]) Suitable for socket- and butt fusion systems (no pictograph on flange)
AL: number of holes

d [mm]	Inch	DN [mm]	PN	Code	SP	kg	D [mm]	D1 [mm]	D2 [mm]	D3 [mm]	H [mm]	AL	SC
[1]40		32	16	**727 700 409**	40	0.220	140	100	51	18	20	4	M16
[1]50		40	16	**727 700 410**	30	0.210	150	110	62	18	22	4	M16
[1]63		50	16	**727 700 411**	25	0.380	165	125	78	18	24	4	M16
[1]75		65	16	**727 700 412**	19	0.480	185	145	92	18	26	4	M16
90		80	16	**727 700 413**	15	0.520	200	160	110	18	27	8	M16
110		100	16	**727 700 414**	13	0.680	220	180	133	18	28	8	M16
140		125	16	**727 700 416**	10	0.800	250	210	167	18	30	8	M16
160	6	150	16	**727 700 417**	-	1.200	285	241	190	22	32	8	M20
225	8	200	16	**727 700 420**	-	1.400	340	295	250	22	34	8	M20
250		250	16	**727 700 421**	-	1.700	395	350	277	22	38	12	M20
280		250	16	**727 700 422**	-	1.700	395	350	310	22	38	12	M20
315		300	16	**727 700 423**	-	2.400	445	400	348	22	42	12	M20

Backing Flanges, PP/Steel for Socket Systems metric

Model:

- PP-GF (30% glass-fibre reinforced) with steel ring
- Connecting dimension: ISO 7005, EN 1092, BS 4504, DIN 2501; bolt circle PN 10



[1] Connecting dimension: ISO 2536 DN125
* Connecting dimension: ISO 2536
AL: number of holes

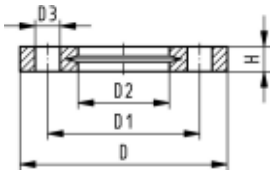
d [mm]	DN [mm]	PN	Code	kg	D [mm]	D1 [mm]	D2 [mm]	D3 [mm]	H [mm]	AL	SC
40	32	16	**727 700 209**	0.650	140	100	51	18	16	4	M16
50	40	16	**727 700 210**	0.820	150	110	62	18	18	4	M16
63	50	16	**727 700 211**	0.940	165	125	78	18	18	4	M16
75	65	16	**727 700 212**	1.300	185	145	92	18	18	4	M16
90	80	16	**727 700 213**	1.400	200	160	110	18	20	8	M16
110	100	16	**727 700 214**	1.560	220	180	133	18	20	8	M16
[1]125	100	16	**727 700 215**	2.590	250	210	150	18	24	8	M16
140	125	16	**727 700 216**	2.120	250	210	167	18	24	8	M16
160	150	16	**727 700 217**	3.390	285	240	190	22	24	8	M20
225	200	16	**727 700 220**	4.410	340	295	250	22	27	8	M20
*250	250	16	**727 700 221**	8.340	395	325	277	22	30	8	M20
280	250	16	**727 700 222**	5.520	395	350	310	22	30	12	M20
315	300	16	**727 700 223**	7.600	445	400	348	22	34	12	M20

Backing Flanges, PP-V for Socket Systems Inch/ANSI

Model:

- Modern full-plastic flange PP-GF (30 % glass-fibre reinforced)
- With V-groove which applies force evenly on collar
- With integrated bolt-fixing as an assembly aid
- Connecting dimension: ANSI/ASME B 16.5 class 150, ASTM D 4024, BS 1560, BS EN 1759

[1]) Suitable for socket- and butt fusion systems (no pictograph on flange)
AL: number of holes



Inch	DN [mm]	PN	Code	kg	D [mm]	D1 [mm]	D2 [mm]	D3 [mm]	H [mm]	AL	SC
[1]1 ¼	32	16	**727 701 409**	0.220	140	89	51	16	20	4	M16
[1]1 ½	40	16	**727 701 410**	0.210	150	98	62	16	22	4	M16
[1]2	50	16	**727 701 411**	0.380	165	121	78	19	24	4	M16
[1]2 ½	65	16	**727 701 412**	0.480	185	140	92	19	26	4	M16
3	80	16	**727 701 413**	0.520	200	152	110	19	27	4	M16
4	100	16	**727 701 414**	0.680	229	190	133	19	28	8	M16
6	150	16	**727 700 417**	1.200	285	241	190	22	32	8	M20
8	200	16	**727 700 420**	1.400	340	295	250	22	34	8	M20
10	250	16	**727 701 422**	1.700	406	362	310	26	38	12	M20
12	300	16	**727 701 423**	2.400	483	432	348	26	42	12	M20

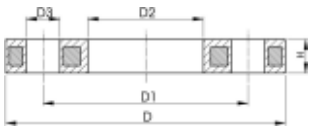
Backing Flanges, PP/Steel for Socket Systems Inch/ANSI

Model:

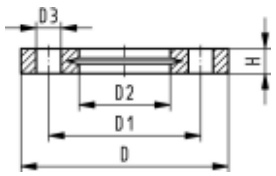
- For socket systems
- For Flange Adaptors BS/ANSI
- Material: PP (30 % glass-fibre reinforced) with steel ring
- Connecting dimension: ANSI/ASME B 16.5 class 150, ASTM D 4024, BS 1560, BS EN 1759

- DN100 and DN150: only for use with original metric flange adaptors

AL: number of holes



DN [mm]	d [mm]	PN	Code	kg	D1 [mm]	D2 [mm]	D3 [mm]	D [mm]	H [mm]	AL
25	32	16	**727 701 208**	0.420	79	42	16	115	16	4
32	40	16	**727 701 209**	0.670	89	51	16	140	16	4
40	50	16	**727 701 210**	0.860	98	62	16	150	18	4
50	63	16	**727 701 211**	0.930	121	78	19	165	18	4
65	75	16	**727 701 212**	1.340	140	92	19	185	18	4
80	90	16	**727 701 213**	1.550	152	110	19	200	20	4
100	110	16	**727 701 214**	1.810	190	133	19	229	20	8
150	160	16	**727 700 217**	3.390	240	190	22	285	24	8
200	200	16	**727 701 220**	4.410	298	250	22	340	27	8



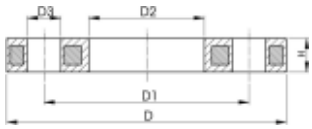
Backing Flanges, PP-V for Butt Fusion Systems metric

Model:

- Modern full-plastic flange PP-GF (30 % glass-fibre reinforced)
- With V-groove which applies force evenly on collar
- With integrated bolt retainers as an assembly aid
- Connecting dimension: ISO 7005, EN 1092, BS 4504, DIN 2501; bolt circle PN 10

[1]) Suitable for socket- and butt fusion systems (no pictograph on flange)
AL: number of holes

d [mm]	Inch	DN [mm]	PN	Code	SP	kg	D [mm]	D1 [mm]	D2 [mm]	D3 [mm]	H [mm]	AL	SC
[1]40		32	16	**727 700 409**	40	0.220	140	100	51	18	20	4	M16
[1]50		40	16	**727 700 410**	30	0.210	150	110	62	18	22	4	M16
[1]63		50	16	**727 700 411**	25	0.380	165	125	78	18	24	4	M16
[1]75		65	16	**727 700 412**	19	0.480	185	145	92	18	26	4	M16
90		80	16	**727 700 513**	15	0.520	200	160	108	18	27	8	M16
110		100	16	**727 700 514**	13	0.680	220	180	128	18	28	8	M16
140		125	16	**727 700 516**	10	0.800	250	210	158	18	30	8	M16
160	6	150	16	**727 700 517**	-	1.200	285	241	178	22	32	8	M20
225	9	200	16	**727 700 520**	-	1.400	340	295	238	22	34	8	M20
280		250	16	**727 700 522**	-	1.700	395	350	294	22	38	12	M20
315		300	16	**727 700 523**	-	2.400	445	400	338	22	42	12	M20



Backing Flanges, PP/Steel for Butt Fusion Systems metric

Model:

- Material: PP (30 % glass-fibre reinforced) with steel ring
- Connecting dimension: ISO 7005, EN 1092, BS 4504, DIN 2501; bolt circle PN 10

AL: number of holes

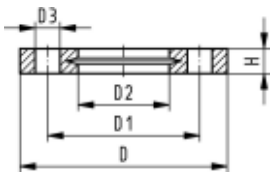
d [mm]	DN [mm]	PN	Code	kg	D [mm]	D1 [mm]	D2 [mm]	D3 [mm]	H [mm]	AL	SC
40	32	16	**727 700 209**	0.650	140	100	51	18	16	4	M16
50	40	16	**727 700 210**	0.820	150	110	62	18	18	4	M16
63	50	16	**727 700 211**	0.940	165	125	78	18	18	4	M16
75	65	16	**727 700 212**	1.300	185	145	92	18	18	4	M16
90	80	16	**727 700 313**	1.400	200	160	108	18	20	8	M16
110	100	16	**727 700 314**	1.580	220	180	128	18	20	8	M16
140	125	16	**727 700 316**	2.360	250	210	158	18	24	8	M16
160	150	16	**727 700 317**	3.890	285	240	178	22	24	8	M20
225	200	16	**727 700 320**	5.150	340	295	238	22	27	8	M20
280	250	16	**727 700 322**	6.580	395	350	294	22	30	12	M20
315	300	16	**727 700 323**	8.420	445	400	338	22	34	12	M20

Backing Flanges, PP-V for Butt Fusion Systems Inch/ANSI

Model:

- Modern full-plastic flange PP-GF (30 % glass-fibre reinforced)
- With V-groove which applies force evenly on collar
- With integrated bolt-fixing as an assembly aid
- Connecting dimension: ANSI/ASME B 16.5 class 150, ASTM D 4024, BS 1560, BS EN 1759

[1]) Suitable for socket- and butt fusion systems (no pictograph on flange)
AL: number of holes



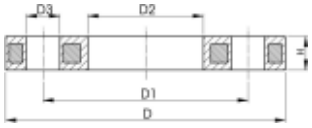
Inch	DN [mm]	PN	Code	kg	D [mm]	D1 [mm]	D2 [mm]	D3 [mm]	H [mm]	AL	SC
[1]1 ¼	32	16	**727 701 409**	0.220	140	89	51	16	20	4	M16
[1]1 ½	40	16	**727 701 410**	0.210	150	98	62	16	22	4	M16
[1]2	50	16	**727 701 411**	0.380	165	121	78	19	24	4	M16
[1]2 ½	65	16	**727 701 412**	0.480	185	140	92	19	26	4	M16
3	80	16	**727 701 513**	0.520	200	152	108	19	27	4	M16
4	100	16	**727 701 514**	0.680	229	190	128	19	28	8	M16
6	150	16	**727 700 517**	1.200	285	241	178	22	32	8	M20
9	200	16	**727 700 520**	1.400	340	295	238	22	34	8	M20
10	250	16	**727 701 522**	1.700	406	362	294	26	38	12	M20
12	300	16	**727 701 523**	2.400	483	432	338	26	42	12	M20

Backing Flanges, PP/Steel for Butt Fusion Systems Inch/ANSI

Model:

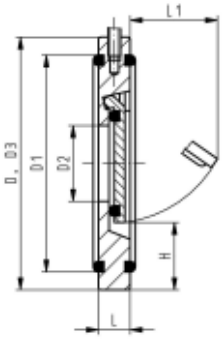
- For butt fusion systems
- Material: PP (30 % glass-fibre reinforced) with steel ring
- Connecting dimension: ANSI/ASME B 16.5 class 150, ASTM D 4024, BS 1560, BS EN 1759

AL: number of holes



DN [mm]	d [mm]	PN	Code	SP	kg	D1 [mm]	D2 [mm]	D3 [mm]	D [mm]	H [mm]	AL
32	40	16	**727 701 209**	20	0.670	89	51	16	140	16	4
40	50	16	**727 701 210**	17	0.860	98	62	16	150	18	4
50	63	16	**727 701 211**	15	0.930	121	78	19	165	18	4
65	75	16	**727 701 212**	11	1.340	140	92	19	185	18	4
80	90	16	**727 701 313**	9	1.550	152	108	19	200	20	4
100	110	16	**727 701 314**	13	1.840	190	128	19	229	20	8
150	160	16	**727 700 317**	-	3.890	240	178	22	285	24	8
200	225	16	**727 701 320**	-	5.150	298	238	22	340	27	8

Wafer Check Valves PVDF



SYGEF Standard
Wafer check valve type 369
Without spring

Model:

- Material: PVDF
- Supporting eyelets for simple fitting
- Suitable for vertical and horizontal mounting

Installation instruction:

- Installation between metric flange adaptors
- Centering by body diameter
- Sealing with special flange gasket (except DN32, o-ring)
- A stabilizing zone of at least 5 times nominal diameter (DN) should be provided before and after the wafer check valve (10 times DN is recommended)
- No direct installation on pump flange or following bend allowed
- Wafer check valves without reset spring are not recommended for pulsating flows (production of noise)

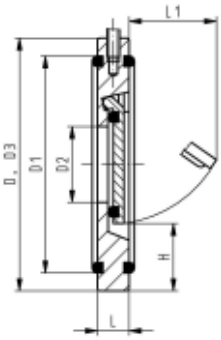
Note:

- **In order to install the wafer check valves properly, Georg Fischer recommends flange adaptors of the next larger diameter of the valve (e.g. wafer check valve d90 with two flange adaptors d110)**

Available with flange gasket from Q4 2008 on

d [mm]	DN [mm]	PN	FPM Code	SP	kg
40	32	6	**175 369 022**	1	0.170
50	40	6	**175 369 023**	1	0.210
63	50	6	**175 369 024**	1	0.330
75	65	6	**175 369 025**	1	0.420
90	80	6	**175 369 026**	1	0.510
110	100	6	**175 369 027**	1	0.710
140	125	6	**175 369 029**	1	0.970
160	150	6	**175 369 030**	1	1.420
225	200	6	**175 369 031**	1	2.710
280	250	6	**175 369 032**	1	4.520
315	300	6	**175 369 033**	1	6.900

d [mm]	D [mm]	D1 [mm]	D2 [mm]	L [mm]	L1 [mm]	H [mm]	Opening pressure vertical [mbar]	Opening pressure horizontal [mbar]	Tightness from water column [m]
40	85	59	18	15	22	25	10	1	2.0
50	95	74	22	16	27	27	10	1	2.0
63	109	90	32	18	40	29	10	1	2.0
75	129	110	40	20	55	31	10	1	2.0
90	144	125	54	20	67	32	10	1	2.0
110	164	150	70	23	67	31	10	1	2.0
140	195	178	92	23	94	35	10	1	2.0
160	220	192	105	26	100	41	10	1	2.0
225	275	256	154	35	152	38	18	1	2.0
280	330	306	192	40	180	41	18	1	2.0
315	380	342	227	45	215	41	18	1	2.0



SYGEF Standard
Wafer check valve type 369
With V4A spring (stainless steel 316)

Model:

- Material: PVDF
- Supporting eyelets for simple fitting
- Suitable for vertical and horizontal mounting

Installation instruction:

- Installation between metric flange adaptors
- Centering by body diameter
- Sealing with special flange gasket (except DN32, o-ring)
- A stabilizing zone of at least 5 times nominal diameter (DN) should be provided before and after the wafer check valve (10 times DN is recommended)
- No direct installation on pump flange or following bend allowed

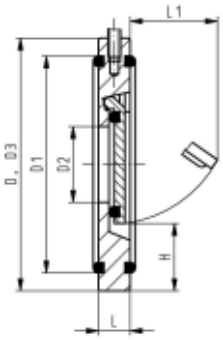
Note:

- **In order to install the wafer check valves properly, Georg Fischer recommends flange adaptors of the next larger diameter of the valve (e.g. wafer check valve d90 with two flange adaptors d110)**

Available with flange gasket from Q4 2008 on

d [mm]	DN [mm]	PN	FPM Code	SP	kg
40	32	6	**175 369 062**	1	0.170
50	40	6	**175 369 063**	1	0.210
63	50	6	**175 369 064**	1	0.330
75	65	6	**175 369 065**	1	0.420
90	80	6	**175 369 066**	1	0.510
110	100	6	**175 369 067**	1	0.710
140	125	6	**175 369 069**	1	0.970
160	150	6	**175 369 070**	1	1.420
225	200	6	**175 369 071**	1	2.710
280	250	6	**175 369 072**	1	4.520
315	300	6	**175 369 073**	1	6.900

d [mm]	D [mm]	D1 [mm]	D2 [mm]	L [mm]	L1 [mm]	H [mm]	Opening pressure vertical [mbar]	Opening pressure horizontal [mbar]	Tightness from water column [m]
40	85	59	18	15	22	25	30	20	2.0
50	95	74	22	16	27	27	30	20	2.0
63	109	90	32	18	40	29	30	20	2.0
75	129	110	40	20	55	31	30	20	2.0
90	144	125	54	20	67	32	30	20	2.0
110	164	150	70	23	67	31	30	20	2.0
140	195	178	92	23	94	35	30	20	2.0
160	220	192	105	26	100	41	30	20	2.0
225	275	256	154	35	152	38	38	20	2.0
280	330	306	192	40	180	41	38	20	2.0
315	380	342	227	45	215	41	38	20	2.0



SYGEF Standard
Wafer check valve type 369
With Hastelloy C spring

Model:

- Material: PVDF
- Supporting eyelets for simple fitting
- Suitable for vertical and horizontal mounting

Installation instruction:

- Installation between metric flange adaptors
- Centering by body diameter
- Sealing with special flange gasket (except DN32, o-ring)
- A stabilizing zone of at least 5 times nominal diameter (DN) should be provided before and after the wafer check valve (10 times DN is recommended)
- No direct installation on pump flange or following bend allowed

Note:

- **In order to install the wafer check valves properly, Georg Fischer recommends flange adaptors of the next larger diameter of the valve (e.g. wafer check valve d90 with two flange adaptors d110)**

Available with flange gasket from Q4 2008 on

d [mm]	DN [mm]	PN	FPM Code	SP	kg
40	32	6	**175 369 102**	1	0.170
50	40	6	**175 369 103**	1	0.210
63	50	6	**175 369 104**	1	0.330
75	65	6	**175 369 105**	1	0.420
90	80	6	**175 369 106**	1	0.510
110	100	6	**175 369 107**	1	0.710
140	125	6	**175 369 109**	1	0.970
160	150	6	**175 369 110**	1	1.420
225	200	6	**175 369 111**	1	2.710
280	250	6	**175 369 112**	1	4.520
315	300	6	**175 369 113**	1	6.900

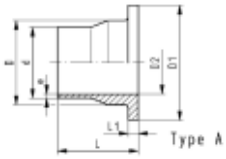
d [mm]	D [mm]	D1 [mm]	D2 [mm]	L [mm]	L1 [mm]	H [mm]	Opening pressure vertical [mbar]	Opening pressure horizontal [mbar]	Tightness from water column [m]
40	85	59	18	15	22	25	30	20	2.0
50	95	74	22	16	27	27	30	20	2.0
63	109	90	32	18	40	29	30	20	2.0
75	129	110	40	20	55	31	30	20	2.0
90	144	125	54	20	67	32	30	20	2.0
110	164	150	70	23	67	31	30	20	2.0
140	195	178	92	23	94	35	30	20	2.0
160	220	192	105	26	100	41	30	20	2.0
225	275	256	154	35	152	38	38	20	2.0
280	330	306	192	40	180	41	38	20	2.0
315	380	342	227	45	215	41	38	20	2.0

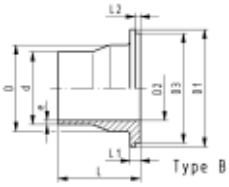
Valve Ends PVDF

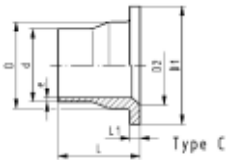
SYGEF Standard, Flange Adaptor, jointing face serrated, PN 16

Model:

- Material: PVDF







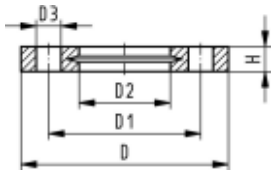
d [mm]	DN [mm]	PN	Code	kg	D [mm]	D1 [mm]	D2 [mm]	D3 [mm]	e [mm]	L [mm]	L1 [mm]	L2 [mm]	Type
40	32	16	**735 798 809**	0.093	49	78	34	73	2.4	68	8	4	B
50	40	16	**735 798 810**	0.129	60	88	43	82	3.0	69	8	4	B
63	50	16	**735 798 811**	0.187	75	102	56		3.0	72	9		A
75	65	16	**735 798 812**	0.298	89	122	66		3.6	80	10		A
90	80	16	**735 798 813**	0.377	105	138	78	133	4.3	81	12	4	B
110	100	16	**735 798 814**	0.540	125	158	100		5.3	81	13		C
140	125	16	**735 798 816**	0.847	155	188	127		6.7	90	16		C
160	150	16	**735 798 817**	1.200	175	212	151		7.7	93	17		C
225	200	16	**735 798 820**	2.000	235	268	207		10.8	102	22		C

Flanges

Backing Flanges, PP-V for Butt Fusion Systems metric

Model:

- Modern full-plastic flange PP-GF (30 % glass-fibre reinforced)
- With V-groove which applies force evenly on collar
- With integrated bolt retainers as an assembly aid
- Connecting dimension: ISO 7005, EN 1092, BS 4504, DIN 2501; bolt circle PN 10



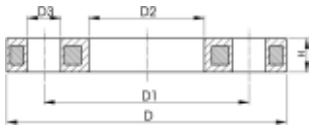
[1]) Suitable for socket- and butt fusion systems (no pictograph on flange)
AL: number of holes

d [mm]	Inch	DN [mm]	PN	Code	SP	kg	D [mm]	D1 [mm]	D2 [mm]	D3 [mm]	H [mm]	AL	SC
[1]40		32	16	**727 700 409**	40	0.220	140	100	51	18	20	4	M16
[1]50		40	16	**727 700 410**	30	0.210	150	110	62	18	22	4	M16
[1]63		50	16	**727 700 411**	25	0.380	165	125	78	18	24	4	M16
[1]75		65	16	**727 700 412**	19	0.480	185	145	92	18	26	4	M16
90		80	16	**727 700 513**	15	0.520	200	160	108	18	27	8	M16
110		100	16	**727 700 514**	13	0.680	220	180	128	18	28	8	M16
140		125	16	**727 700 516**	10	0.800	250	210	158	18	30	8	M16
160	6	150	16	**727 700 517**	-	1.200	285	241	178	22	32	8	M20
225	9	200	16	**727 700 520**	-	1.400	340	295	238	22	34	8	M20
280		250	16	**727 700 522**	-	1.700	395	350	294	22	38	12	M20
315		300	16	**727 700 523**	-	2.400	445	400	338	22	42	12	M20

Backing Flanges, PP/Steel for Butt Fusion Systems metric

Model:

- Material: PP (30 % glass-fibre reinforced) with steel ring
- Connecting dimension: ISO 7005, EN 1092, BS 4504, DIN 2501; bolt circle PN 10



AL: number of holes

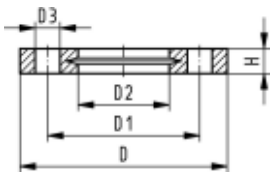
d [mm]	DN [mm]	PN	Code	kg	D [mm]	D1 [mm]	D2 [mm]	D3 [mm]	H [mm]	AL	SC
40	32	16	**727 700 209**	0.650	140	100	51	18	16	4	M16
50	40	16	**727 700 210**	0.820	150	110	62	18	18	4	M16
63	50	16	**727 700 211**	0.940	165	125	78	18	18	4	M16
75	65	16	**727 700 212**	1.300	185	145	92	18	18	4	M16
90	80	16	**727 700 313**	1.400	200	160	108	18	20	8	M16
110	100	16	**727 700 314**	1.580	220	180	128	18	20	8	M16
140	125	16	**727 700 316**	2.360	250	210	158	18	24	8	M16
160	150	16	**727 700 317**	3.890	285	240	178	22	24	8	M20
225	200	16	**727 700 320**	5.150	340	295	238	22	27	8	M20
280	250	16	**727 700 322**	6.580	395	350	294	22	30	12	M20
315	300	16	**727 700 323**	8.420	445	400	338	22	34	12	M20

Backing Flanges, PP-V for Butt Fusion Systems Inch/ANSI

Model:

- Modern full-plastic flange PP-GF (30 % glass-fibre reinforced)
- With V-groove which applies force evenly on collar
- With integrated bolt-fixing as an assembly aid
- Connecting dimension: ANSI/ASME B 16.5 class 150, ASTM D 4024, BS 1560, BS EN 1759

[1]) Suitable for socket- and butt fusion systems (no pictograph on flange)
AL: number of holes



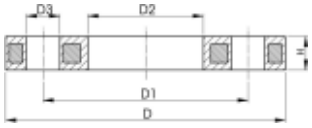
Inch	DN [mm]	PN	Code	kg	D [mm]	D1 [mm]	D2 [mm]	D3 [mm]	H [mm]	AL	SC
[1]1 ¼	32	16	**727 701 409**	0.220	140	89	51	16	20	4	M16
[1]1 ½	40	16	**727 701 410**	0.210	150	98	62	16	22	4	M16
[1]2	50	16	**727 701 411**	0.380	165	121	78	19	24	4	M16
[1]2 ½	65	16	**727 701 412**	0.480	185	140	92	19	26	4	M16
3	80	16	**727 701 513**	0.520	200	152	108	19	27	4	M16
4	100	16	**727 701 514**	0.680	229	190	128	19	28	8	M16
6	150	16	**727 700 517**	1.200	285	241	178	22	32	8	M20
9	200	16	**727 700 520**	1.400	340	295	238	22	34	8	M20
10	250	16	**727 701 522**	1.700	406	362	294	26	38	12	M20
12	300	16	**727 701 523**	2.400	483	432	338	26	42	12	M20

Backing Flanges, PP/Steel for Butt Fusion Systems Inch/ANSI

Model:

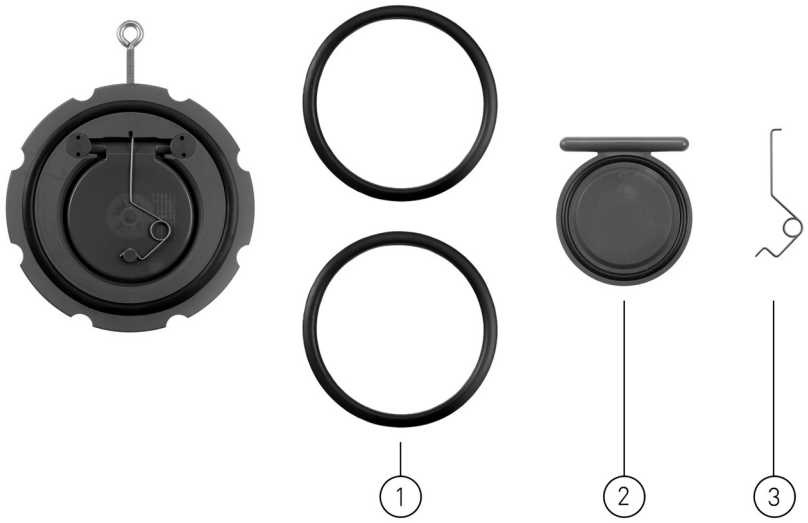
- For butt fusion systems
- Material: PP (30 % glass-fibre reinforced) with steel ring
- Connecting dimension: ANSI/ASME B 16.5 class 150, ASTM D 4024, BS 1560, BS EN 1759

AL: number of holes



DN [mm]	d [mm]	PN	Code	SP	kg	D1 [mm]	D2 [mm]	D3 [mm]	D [mm]	H [mm]	AL
32	40	16	**727 701 209**	20	0.670	89	51	16	140	16	4
40	50	16	**727 701 210**	17	0.860	98	62	16	150	18	4
50	63	16	**727 701 211**	15	0.930	121	78	19	165	18	4
65	75	16	**727 701 212**	11	1.340	140	92	19	185	18	4
80	90	16	**727 701 313**	9	1.550	152	108	19	200	20	4
100	110	16	**727 701 314**	13	1.840	190	128	19	229	20	8
150	160	16	**727 700 317**	-	3.890	240	178	22	285	24	8
200	225	16	**727 701 320**	-	5.150	298	238	22	340	27	8

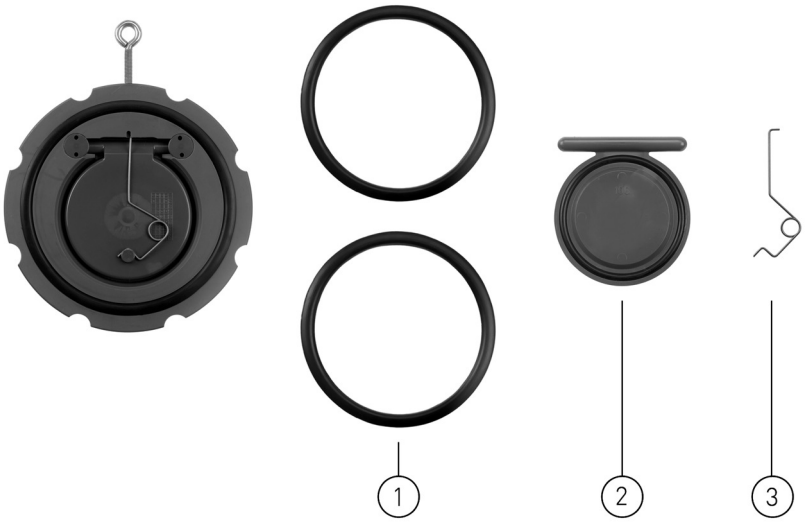
Spare parts for wafer check valve type 369 PVC-U



No.	Article / Material	Pieces	d40 DN 32	d50 DN 40	d63 DN 50	d75 DN 65	d90 DN 80	d110 DN 100	d140 DN 125
1	Flange gasket EPDM	2	161 484 875	161 486 959	161 486 960	161 486 961	161 486 962	161 486 962	161 486 964
1	Flange gasket FPM	2	161 484 887	161 486 979	161 486 980	161 486 981	161 486 982	161 486 982	161 486 984
	Disc set		161 369 122	161 369 123	161 369 124	161 369 125	161 369 126	161 369 127	161 369 128
2	Disc PVC-U	1							
2	Seal EPDM	1							
	Disc set		161 369 142	161 369 143	161 369 144	161 369 145	161 369 146	161 369 147	161 369 148
2	Disc PVC-U	1							
2	Seal FPM	1							
3	Spring V4A	1	161 484 900	161 484 901	161 484 902	161 484 903	161 484 904	161 484 905	161 484 905
3	Spring Hastelloy C	1	161 484 912	161 484 913	161 484 914	161 484 915	161 484 916	161 484 917	161 484 917

No.	Article / Material	Pieces	d160 DN 150	d225 DN 200	d280 DN 250	d315 DN 300
1	Flange gasket EPDM	2	161 486 964	161 486 974	161 486 966	161 486 967
1	Flange gasket FPM	2	161 486 984	161 486 993	161 486 986	161 486 987
	Disc set		161 369 129	161 369 130	161 369 131	161 369 132
2	Disc PVC-U	1				
2	Seal EPDM	1				
	Disc set		161 369 149	161 369 150	161 369 151	161 369 152
2	Disc PVC-U	1				
2	Seal FPM	1				
3	Spring V4A	1	161 484 907	161 484 908	161 484 909	161 484 910
3	Spring Hastelloy C	1	161 484 919	161 484 920	161 484 921	161 484 922

Spare parts for wafer check valve type 369 PP-H

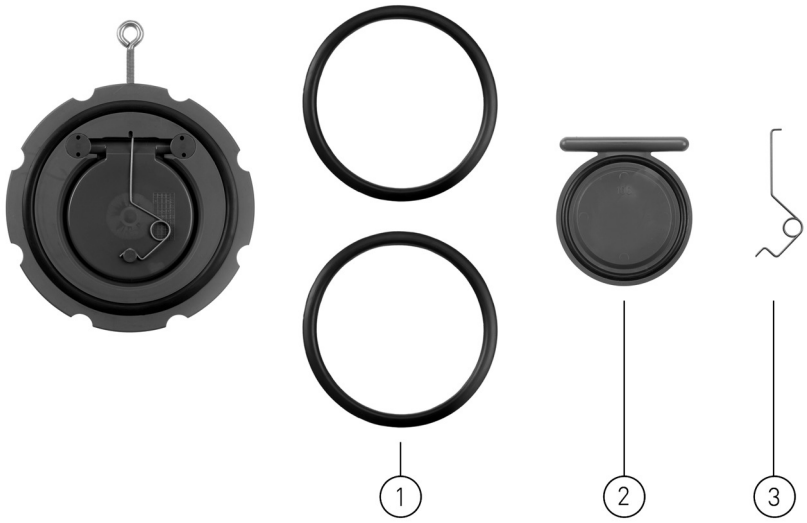


No.	Article / Material	Pieces	d40 DN 32	d50 DN 40	d63 DN 50	d75 DN 65	d90 DN 80	d110 DN 100	d140 DN 125
1	Flange gasket EPDM Available for PP-H from 4.quarter 2008	2	161 484 875	161 486 959	161 486 960	161 486 961	161 486 962	161 486 962	161 486 964
1	Flange gasket FPM Available for PP-H from 4.quarter 2008	2	161 484 887	161 486 979	161 486 980	161 486 981	161 486 982	161 486 982	161 486 984
1	Face seal EPDM	2	161 484 875	161 484 876	161 484 877	161 484 878	161 484 879	16148880	161 484 881
1	Face seal FPM	2	161 484 887	161 484 888	161 484 889	161 484 890	1614864891	161 484 892	161 484 893
	Disc set		167 369 122	167 369 123	167 369 124	167 369 125	167 369 126	167 369 127	167 369 128
2	Disc PP-H	1							
2	Seal EPDM	1							
	Disc set		167 369 142	167 369 143	167 369 144	167 369 145	167 369 146	167 369 147	167 369 148
2	Disc PP-H	1							
2	Seal FPM	1							
3	Spring V4A	1	161 484 900	161 484 901	161 484 902	161 484 903	161 484 904	161 484 905	161 484 905
3	Spring Hastelloy C	1	161 484 912	161 484 913	161 484 914	161 484 915	161 484 916	161 484 917	161 484 917

No.	Article / Material	Pieces	d160 DN 150	d225 DN 200	d280 DN 250	d315 DN 300
1	Flange gasket EPDM Available for PP-H from 4.quarter 2008	2	161 486 964	161 486 974	161 486 966	161 486 967
1	Flange gasket FPM Available for PP-H from 4.quarter 2008	2	161 486 984	161 486 993	161 486 986	161 486 987
1	Face seal EPDM	2	161 484 882	161 484 883	161 484 884	161 484 885
1	Face seal FPM	2	161 484 894	161 484 895	161 484 896	161 484 897
	Disc set		167 369 129	167 369 130	167 369 131	167 369 132
2	Disc PP-H	1				
2	Seal EPDM	1				

No.	Article / Material	Pieces	d160 DN 150	d225 DN 200	d280 DN 250	d315 DN 300
	Disc set		167 369 149	167 369 150	167 369 151	167 369 152
2	Disc PP-H	1				
2	Seal FPM	1				
3	Spring V4A	1	161 484 907	161 484 908	161 484 909	161 484 910
3	Spring Hastelloy C	1	161 484 919	161 484 920	161 484 921	161 484 922

Spare parts for wafer check valve type 369 PVDF



No.	Article / Material	Pieces	d40 DN 32	d50 DN 40	d63 DN 50	d75 DN 65	d90 DN 80	d110 DN 100	d140 DN 125
1	Flange gasket FPM Available for PVDF from 4.quarter 2008	2	161 484 887	161 486 979	161 486 980	161 486 981	161 486 982	161 486 982	161 486 984
1	Face seal FPM	2	161 484 887	161 484 888	161 484 889	161 484 890	1614864891	161 484 892	161 484 893
	Disc set		175 369 142	175 369 143	175 369 144	175 369 145	175 369 146	175 369 147	175 369 148
2	Disc PVDF	1							
2	Seal FPM	1							
3	Spring V4A	1	161 484 900	161 484 901	161 484 902	161 484 903	161 484 904	161 484 905	161 484 905
3	Spring Hastelloy C	1	161 484 912	161 484 913	161 484 914	161 484 915	161 484 916	161 484 917	161 484 917

No.	Article / Material	Pieces	d160 DN 150	d225 DN 200	d280 DN 250	d315 DN 300
1	Flange gasket FPM Available for PVDF from 4.quarter 2008	2	161 486 984	161 486 993	161 486 986	161 486 987
1	Face seal FPM	2	161 484 894	161 484 895	161 484 896	161 484 897
	Disc set		175 369 149	175 369 150	175 369 151	175 369 152
2	Disc PVDF	1				
2	Seal FPM	1				
3	Spring V4A	1	161 484 907	161 484 908	161 484 909	161 484 910
3	Spring Hastelloy C	1	161 484 919	161 484 920	161 484 921	161 484 922

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General Condition of Supply of Georg Fischer Piping Systems Limited, Schaffhausen

1 General

1.1 These General Conditions shall apply to all Products supplied by Georg Fischer to the Purchaser They shall also apply to all future business even when no express reference is made to them

1.2 Any deviating or supplementary conditions especially Purchaser's general conditions of purchase and verbal agreements shall only be applicable if accepted in writing by Georg Fischer.

1.3 The written form shall be deemed to be fulfilled by all forms of transmission, evidenced in the form of text, such as telefax, e-mail, etc.

2 Tenders

Tenders shall only be binding if they contain a specifically stated period for acceptance.

3 Scope of Delivery

3.1 Georg Fischer's product range is subject to change.

3.2 The confirmation of order shall govern the scope and execution of the contract.

4 Data and Documents

4.1 Technical documents such as drawings, descriptions, illustrations and data on dimensions, performance and weight as well as the reference to standards are for information purposes only. They are not warranted characteristics and are subject to change.

4.2 All technical documents shall remain the exclusive property of Georg Fischer and may only be used for the agreed purposes or as Georg Fischer may consent.

5 Confidentiality, Protection of Personal Data

5.1 Each party shall keep in strict confidence all commercial or technical information relating to the business of the other party, of which it has gained knowledge in the course of its dealing with the other party. Such information shall neither be disclosed to third parties nor used for other purposes than those for which the information has been supplied.

5.2 In the context of the contractual relation with the Purchaser personal data may be processed. The Purchaser agrees to the disclosure of said data to third parties such as foreign subcontractors and suppliers etc.

6 Local Laws and Regulations, Export Controls

6.1 The Purchaser shall bring to the attention of Georg Fischer all local laws and regulations at the place of destination which bear connection with the execution of the contract and the adherence to relevant safety regulations and approval procedures.

6.2 In case of re-exports, Purchaser shall be responsible for compliance with pertinent export control regulations.

7 Price

7.1 Unless agreed otherwise, the prices shall be deemed quoted net ex works (according to Incoterms of the ICC, latest version) including standard packing. All supplementary costs such as the cost of carriage, insurance, export-, transit- and importlicences etc. shall be borne by the Purchaser. The Purchaser shall also bear the costs of all taxes, fees, duties etc. connected with the contract.

7.2 If the costs of packing, carriage, insurance, fees and other supplementary costs are included in the tender price or contract price or are referred to specifically in the tender or confirmation of order, Georg Fischer reserve the right to revise their prices accordingly should any change occur in the relevant tariffs.

8 Terms of Payment

8.1 The Purchaser shall make payment in the manner agreed by the parties without any deductions such as discounts, costs, taxes or dues.

8.2 The Purchaser may only withhold or off-set payments due against counter claims which are either expressly acknowledged by Georg Fischer or finally awarded to the Purchaser.
In particular, payment shall still be made when unessential items are still out-standing provided that the Products already delivered are not rendered unusable as a result.

9 Retention of Title

9.1 The Products shall remain the property of Georg Fischer until the Purchaser shall have settled all claims, present and future, which Georg Fischer may have against him.

9.2 Should the Purchaser resell Products to which title is reserved, in the ordinary course of business, he shall hereby be deemed to have tacitly assigned to Georg Fischer the proceeds deriving from their sale together with all collateral rights, securities and reservations of title until all claims held by Georg Fischer shall have been settled. Until revoked by Georg Fischer, this assignment shall not preclude Purchaser's right to collect the assigned receivables.

9.3 To the extent the value of the Products to which title is reserved together with collateral securities exceeds Georg Fischer's claims against the Purchaser by more than 20%, Georg Fischer shall re-assign the above proceeds to Purchaser at his request.

10 Delivery

10.1 The term of delivery shall commence as soon as the contract has been entered into, all official formalities such as import and payment permits have been obtained and all essential technical issues have been settled. The term of delivery shall be deemed duly observed when, upon its expiry, the Products are ready for despatch.

10.2 Delivery is subject to the following conditions, i.e. the term of delivery shall be reasonably extended:

a) if Georg Fischer are not supplied in time with the information necessary for the execution of the contract or if subsequent changes causing delays are made by the Purchaser.

b) if Georg Fischer are prevented from performing the contract by force majeure. Force majeure shall equally be deemed to be any unforeseeable event beyond Georg Fischer's control which renders Georg Fischer's performance commercially unpractical or impossible, such as delayed or defective supplies from sub contractors labour disputes, governmental orders or regulations, shortages in materials or energy, serious disturbances in Georg Fischer's works, such as the total or partial destruction of plant and equipment or the breakdown of essential facilities, serious disruptions in transport facilities, e.g. impassable roads.
Should the effect of force majeure exceed a period of six months, either party may cancel the contract forthwith.
Georg Fischer shall not be liable for any damage or loss of any kind whatsoever resulting therefrom, any suspension or cancellation being without prejudice to Georg Fischer's right to recover all sums due in respect of consignments delivered and costs incurred to date.

c) if the Purchaser is in delay with the fulfilment of his obligations under the contract, in particular, if he does not adhere to the agreed conditions of payment or if he has failed to timely provide the agreed securities.

10.3 If for reasons attributable to Georg Fischer the agreed term of delivery or a reasonable extension thereof is exceeded, Georg Fischer shall not be deemed in default until the Purchaser has granted to Georg Fischer in writing a reasonable extension thereof of not less than one month which equally is not met.
The Purchaser shall then be entitled to the remedies provided at law, it being however understood that, subject to limitations of Art. 16, damage claims shall be limited to max. 10% of the price of the delayed delivery.

10.4 Part shipments shall be allowed and Georg Fischer shall be entitled to invoice for such partial deliveries.

10.5 If the Purchaser fails to take delivery within a reasonable time of Products notified as ready for despatch, Georg Fischer shall be entitled to store the Products at the Purchaser's expense and risk and to invoice them as delivered. If Purchaser fails to effect payment, Georg Fischer shall be entitled to dispose of the Products.

10.6 Should Purchaser cancel an order without justification and should Georg Fischer not insist on the performance of the contract, Georg Fischer shall be entitled to liquidated damages in the amount of 10% of the contract price, Georg Fischer›s right to prove and claim higher damages remaining reserved. Purchaser shall be entitled to prove, that Georg Fischer has suffered no or a considerably lower damage.

11 Packing

If the Products are provided with additional packing over and above the standard packing, such packing shall be charged additionally.

12 Passing of Risk

12.1 The risk in the Products shall pass to the Purchaser as soon as they have left Georg Fischer's works (EX WORKS, Incoterms ICC, latest version), even if delivery is made carriage-paid, under similar clauses or including installation or when carriage is organized and managed by Georg Fischer.

12.2 If delivery is delayed for reasons beyond Georg Fischer's control, the risk shall pass to the Purchaser when he is notified that the Products are ready for despatch.

13 Carriage and Insurance

13.1 Unless agreed otherwise, the Purchaser shall bear the cost of carriage.

13.2 The Purchaser shall be responsible for transport insurance against damage of whatever kind. Even when such insurance is arranged by Georg Fischer it shall be deemed taken out by the order of and for the account of the Purchaser and at his risk.

13.3 Special requests regarding carriage and insurance shall be communicated to Georg Fischer in due time. Otherwise carriage shall be arranged by Georg Fischer at their discretion, but without responsibility, by the quickest and cheapest method possible.
In case of carriage-paid delivery transport arrangements shall be made by Georg Fischer. If the Purchaser specifies particular requirements, any extra costs involved shall be borne by him.

13.4 In the event of damage or loss of the Products during carriage the Purchaser shall mark the delivery documents accordingly and immediately have the damage ascertained by the carrier. Not readily ascertainable damages sustained during carriage shall be notified to the carrier within six days after receipt of the Products.

14 Inspection, Notification of Defects and Damages

14.1 The Products will be subject to normal inspection by Georg Fischer during manufacture. Additional tests required by the Purchaser shall be agreed upon in writing and shall be charged to the Purchaser.

14.2 It shall be a condition of Georg Fischer's obligation under the warranties stated hereinafter that Georg Fischer be notified in writing by the Purchaser of any purported defect immediately upon discovery. Notice concerning weight, numbers or apparent defects is to be given latest within 30 days from receipt of the Products, notice of other defects immediately latest within 7 working days after discovery, in any event within the agreed warranty period.

14.3 Purchaser shall not dispose of allegedly defective Products until all warranty and/or damage claims are finally settled. At its request, defective Products are to be placed at Georg Fischer's disposal.

14.4 At its request, Georg Fischer shall be given the opportunity to inspect the defect and/or damage, prior to commencement of remedial work, either itself or by third party experts.

15 Warranty

15.1 At the written request of the Purchaser, Georg Fischer undertake to repair or replace at their discretion, as quickly as possible and free of charge all Products supplied which demonstrably suffer from faulty design, materials or workman-ship or from faulty operating or installation instructions.
In order to protect employees from toxic or radioactive substances which may have been transported through defective parts returned to Georg Fischer's sales organisation, said parts must be accompanied by a Material Safety Disclosure Form. The form may be obtained from Georg Fischer's local sales company or via www.piping.georgfischer.com.
Replaced parts shall become property of Georg Fischer.

15.2 For Products which are manufactured to specifications, drawings or patterns supplied by the Purchaser, Georg Fischer's warranty shall be restricted to proper materials and workmanship.

15.3 The Purchaser shall be entitled to cancel the contract or to demand a reduction in the contract price if also a second attempt to repair or replace the Products has failed.

15.4 For Products or essential components manufactured by a third party and supplied by Georg Fischer under this contract, Georg Fischer's warranty is limited to the warranty provided by said third party.

15.5 This warranty shall not apply to damage resulting from normal wear and tear, improper storage and maintenance, failure to observe the operating instructions, overstressing or overloading, unsuitable operating media, unsuitable construction work or unsuitable building ground, improper repairs or alterations by the Purchaser or third parties, the use of other than original spare parts and other reasons beyond Georg Fischer's control.

15.6 No action or claim may be brought by the Purchaser on account of any alleged breach of warranty or any other obligation of Georg Fischer after the expiration of twelve (12) months from receipt of the Products by the end user or at the latest within eighteen (18) months of the Products being despatched by Georg Fischer.

15.7 In case of Products for use in domestic installations or in utilities
- Georg Fischer will assume the costs of dismantling the defective Product and restoring the damaged object as well as, in case of negligence, all other direct damages caused by the defective Product (damage to property and injury to or death of persons) up to CHF 1 000 000 per occurrence.
- the statute of limitations for warranty or damage claims – contrary to Section 15.6 – will be 5 years from the date of installation.

16 Limitation of Liability

All cases of breach of contract and the relevant consequences as well as all rights and claims on the part of the customer, irrespective on what ground they are based, are exhaustively covered by these general conditions of supply. In particular, any claims not expressly mentioned for damages, reduction of price, termination of or withdrawal from the contract are excluded. In no case whatsoever shall the customer be entitled to claim damages other than compensation for costs of remedying defects in the supplies. This in particular refers, but shall not be limited, to loss of production, loss of use, loss of orders, loss of profit and other direct or indirect or consequential damage. This exclusion of liability, however, does not apply to unlawful intent or gross negligence on the part of Georg Fischer and in case of strict liability under applicable product liability statutes, but does apply to unlawful intent or gross negligence of persons employed or appointed by Georg Fischer to perform any of its obligations.

17 Severability

Should any term or clause of these General Conditions in whole or in part be found to be unenforceable or void, all other provisions shall remain in full force and effect and the unenforceable or void provision shall be replaced by a valid provision, which comes closest to the original intention of the unenforceable or invalid provision.

18 Place of Performance and Jurisdiction

18.1 Place of performance for the Products shall be the Georg Fischer works from which the Products are despatched.

18.2 Any civil action based upon any alleged breach of this contract shall be filed and prosecuted exclusively in the courts of Schaffhausen, Switzerland.
Georg Fischer however reserves the right to file actions in any court having jurisdiction over controversies arising out of or in connection with the present contract.

18.3 The contract shall be governed by Swiss law without regard to conflict of law provisions that would require the application of another law.

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Our sales companies and representatives
ensure local customer support in over 100 countries.

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The technical data are not binding and
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Adding Quality to People's Lives

Australia
George Fischer Pty Ltd
Riverwood NSW 2210 Australia
Phone +61(0)2/9502 8000
australia.ps@georgfischer.com
www.georgefischer.com.au

Austria
Georg Fischer
Rohrleitungssysteme GmbH
3130 Herzogenburg
Phone +43(0)2782/856 43-0
austria.ps@georgfischer.com
www.georgfischer.at

Belgium / Luxembourg
Georg Fischer NV/SA
1070 Bruxelles/Brüssel
Phone +32(0)2/556 40 20
be.ps@georgfischer.com
www.georgfischer.be

Brazil
George Fischer Ltda
04795-100 São Paulo
Phone +55(0)11/5687 1311
br.ps@georgfischer.com

China
Georg Fischer
Piping Systems Ltd Shanghai
Pudong, Shanghai 201319
Phone +86(0)21/58 13 33 33
china.ps@georgfischer.com
www.cn.piping.georgfischer.com

Denmark / Iceland
Georg Fischer A/S
2630 Taastrup
Phone +45 (0)70 22 19 75
info.dk.ps@georgfischer.com
www.georgfischer.dk

France
Georg Fischer SAS
95932 Roissy Charles de Gaulle Cedex
Phone +33(0)1 41 84 68 84
fr.ps@georgfischer.com
www.georgefischer.fr

Germany
Georg Fischer GmbH
73095 Albershausen
Phone +49(0)7161/302-0
info.de.ps@georgfischer.com
www.vgd.georgfischer.de

India
Georg Fischer Piping Systems Ltd
400 076 Mumbai
Phone +91 224007 2001
in.ps@georgfischer.com
www.georgfischer.in

Italy
Georg Fischer S.p.A.
20063 Cernusco S/N (MI)
Phone +3902/921 861
it.ps@georgfischer.com
www.georgfischer.it

Japan
Georg Fischer Ltd
556-0011 Osaka,
Phone +81(0)6/6635 2691
jp.ps@georgfischer.com
www.georgfischer.jp

Korea
Georg Fischer Piping Systems
Guro-3 dong, Guro-gu, Seoul, Korea
Phone +82(0)2 2081 1450
Fax +82(0)2 2081 1453
kor.ps@georgfischer.com

Malaysia
Georg Fischer (M) Sdn. Bhd.
40460 Shah Alam, Selangor
Phone +60 (0)3-5122 5585
conne.kong@georgfischer.com

Mexico
Georg Fischer S.A. de C.V.
Apodaca, Nuevo Leon
CP66636 Mexico
Phone +52 (81)1340 8586
Fax +52 (81)1522 8906

Middle East
George Fischer Piping Systems
Dubai, United Arab Emirates
Phone +971 4 289 41 20
gfdubai@emirates.net.ae
www.piping.georgfischer.com

Netherlands
Georg Fischer N.V.
8161 PA Epe
Phone +31(0)578/678 222
nl.ps@georgfischer.com
www.georgfischer.nl

Norway
Georg Fischer AS
1351 Rud
Phone +47(0)67 18 29 00
no.ps@georgfischer.com
www.georgfischer.no

Poland
Georg Fischer Sp. z o.o.
02-226 Warszawa
Phone +48(0)22/313 10 50
poland.ps@georgfischer.com
www.georgfischer.pl

Romania
Georg Fischer
Piping Systems Ltd
020257 Bucharest - Sector 2
Phone +40(0)21/230 53 80
ro.ps@georgfischer.com

Russia
Georg Fischer Piping Systems
Moscow 125047
Tel. +7 495 258 60 80
ru.ps@georgfischer.com

Singapore
George Fischer Pte Ltd
528 872 Singapore
Phone +65(0)67 47 06 11
sgp.ps@georgfischer.com
www.georgefischer.com.sg

Spain / Portugal
Georg Fischer S.A.
28046 Madrid
Phone +34(0)91/781 98 90
es.ps@georgfischer.com
www.georgfischer.es

Sweden / Finland
Georg Fischer AB
12523 Älvsjö-Stockholm
Phone +46(0)8/506 775 00
info.se.ps@georgfischer.com
www.georgfischer.se

Switzerland
Georg Fischer
Rohrleitungssysteme (Schweiz) AG
8201 Schaffhausen
Phone +41(0)52 631 30 26
ch.ps@georgfischer.com
www.piping.georgfischer.ch

Taiwan
Georg Fischer Piping Systems
San Chung City, Taipei Hsien
Phone +886 2 8512 2822 Ext. 15
Fax +886 2 8512 2823

United Kingdom / Ireland
George Fischer Sales Limited
Coventry, CV2 2ST
Phone +44(0)2476 535 535
uk.ps@georgfischer.com
www.georgefischer.co.uk

USA / Canada / Latin America / Caribbean
George Fischer Inc.
Tustin, CA 92780-7258
Phone +1(714) 731 88 00
Toll Free 800/854 40 90
us.ps@georgfischer.com
www.us.piping.georgefischer.com

Export
Georg Fischer
Piping Systems (Switzerland) Ltd.
8201 Schaffhausen
Phone +41(0)52-631 30 26
Fax +41(0)52-631 28 93
export.ps@georgfischer.com
www.piping.georgfischer.ch

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