



— PRODUCT CATALOGUE —
VACUUM TECHNOLOGY

JAKOB VACUUM TECHNOLOGY

Standard or customized

JAKOB vacuumtechnik GmbH is a company with experienced employees which has specialized in the production of vacuum components. Besides the catalogue program at standardized vacuum components the production of custom-designed products is carried out.

As a manufacturing method TIG and MIG weldings as well as brazing and / or annealing at vacuum oven are also available besides metall cutting processing.

A various product program can be manufactured for user of vacuum technology in high quality with that.



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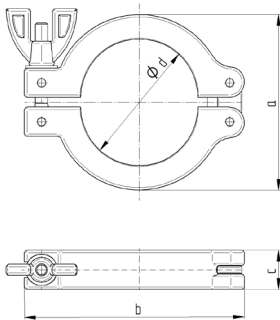
[Cold Traps](#)

KF Small Flange

Small Flange Fasteners

Clamping ring made of die-cast-aluminium

KF

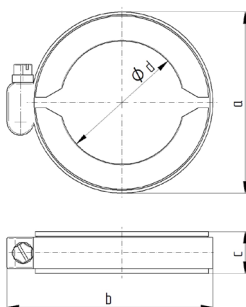


KF-DN	10/16	20/25	32/40	50	60
d mm	22	32	47	63	65
b mm	45	55	70	95	95
b1 mm	61	72	90	123	123
h mm	18	18	18	25	25
Art. Nr.:	30050160	30050171	30050258	30050165	30050267

- Suitable for use with [o-rings](#)
- Quick assembly and replacement of small flange connections
- According to standard DIN 28403 and ISO 2861
- Temperature range: -196°C up to +200°C

Clamping ring with tightening strap made of aluminium

KF

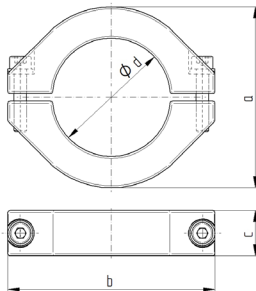


KF-DN	10/16	20/25	32/40
d mm	22	31	47
b mm	42	51	67
b1 mm	52,5	62,5	78
h mm	16	16	16
Art. Nr.:	30150573	30150551	30150576

- Suitable for use with [o-rings](#)
- Opening the small flange connection is only possible with a tool
- Compact design
- Screw: external hexagon, SW 7mm
- Temperature range: 0°C up to +100°C

Clamping ring for metal sealing made of stainless steel

KF

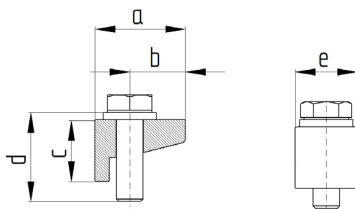
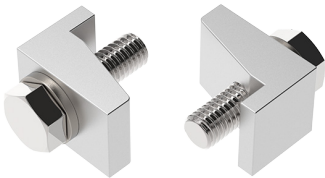


KF-DN	10/16	20/25	32/40	50	60
b mm	55	67	83	114	114
d mm	22	32	47	62	65
h mm	18	18	18	21	21
Art. Nr.:	30250374	30250373	30250248	30250375	30251152

- Suitable for use with [o-rings](#) and [metal sealings](#)
- Screw: Hexagon socket, A2, 70
- Temperature range: -196°C up to +300°C

Single claw clamp made of aluminium with galvanized screw

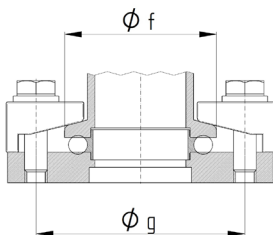
KF



KF-DN	10-60	Nominal diameter	a	b	c	d	e	ϕf	ϕg (threaded hole)
Art. Nr.:	30350308	DN 10/16 KF	20	12	15	20	14	30	45 (4 x M6)
		DN 20/25 KF	20	12	15	20	14	40	55 (4 x M6)
		DN 32/40 KF	20	12	15	20	14	55	71 (4 x M6)
		DN 50/60 KF	20	12	15	20	14	75	91 (4 x M6)

according to DIN ISO 2768-mK

- Suitable for use with [o-rings](#) and [metal sealings](#)
- For mounting on a base plate
- Temperature range: -196°C up to 200°C

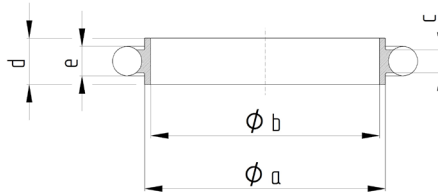


Sealing Elements

Sealing ring	Perbunan® (NBR)	Viton® (FKM)	EPDM
Price	Inexpensive	Expensive	Medium
Temperature resistance	-30°C up to +120°C	-25°C up to +250°C	-45°C up to +150°C
Chemical resistance	Good against oils and gasoline	Excellent against oils, greases and solvents	Good against acids, bases
Gas permeability	Medium	Low	Low
Mechanical properties	Good abrasion resistance, tensile strength	Good abrasion resistance, high tensile strength, good compression strength	Good abrasion resistance, good weather resistance

Centering ring with sealing ring (o-ring)

KF



- Centering ring available in various materials
- According to DIN 28403-3

KF-DN	10	16	20	25	32	40	50	60
d mm	8	8	8	8	8	8	8	8
e mm	5	5	5	5	5	5	5	5
Øa	12	17	22	26	34	41	52	62
Øb	10	16	21	25	32	40	50	60
c	3,9	3,9	3,9	3,9	3,9	3,9	3,9	3,9

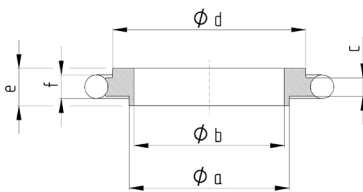
Art. Nr.:

Stainless/NBR:	31050020	31050021	31050022	31050023	31050024	31050025	31050026	31050027
Stainless/FKM:	31050260	31051533	31051164	31050163	31051170	31050179	31050259	31051177
Stainless/EPDM:	31051158	31050249	31051165	31050169	31051171	31050177	31050162	31051178
Alum./NBR:	31051159	31050278	31051166	31050276	31051172	31050269	31050284	31051179
Alum./FKM:	31051160	31050279	31051167	31050275	31051173	31050273	31050281	31051180
Alum./EPDM	31051161	31051163	31051168	31051169	31051174	31051175	31051176	31051181

according to DIN ISO 2768-mK

Reducer centering rings with sealing ring (O-Ring)

KF



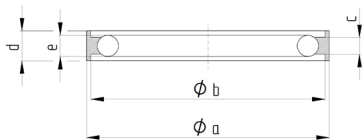
KF-DN	10/16	20/25	32/40	50/60
ϕa mm	12	22	34	52
ϕb mm	10	21	32	50
c mm	3,9	3,9	3,9	3,9
ϕd mm	17	26	41	62
e mm	5	5	5	5
f mm	8	8	8	8
Art. Nr.:				
Stainless/NBR:	31151182	31151187	31151193	31151200
Stainless/FKM:	31150289	31151188	31151114	31151201
Stainless/EPDM:	31151183	31151189	31151196	31151202
Alu./NBR:	31151184	31151190	31151197	31151203
Alum./FKM:	31151185	31151191	31151198	31151204
Alum./EPDM:	31151186	31151192	31151199	31151205

according to DIN ISO 2768-mK

- According to DIN 28403-5
- Centering ring available in various materials

Outer centering rings with sealing ring (o-ring)

KF



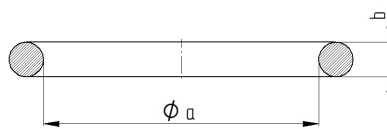
KF-DN	10/16	20/25	32/40	50	60
ϕa mm	32	42	57	77	77
ϕb mm	30	40	55	75	75
c mm	3,9	3,9	3,9	3,9	3,9
e mm	5	5	5	5	5
d mm	7	7	7	7	7
Art. Nr.:					
Stainless/NBR	31250917	31251214	31251219	31251222	31251231
Stainless/FKM:	31251210	31251215	31251220	31251227	31250265
Stainless/EPDM:	31250172	31251216	31251221	31250187	31251232
Alum./NBR:	31250286	31251212	31251217	31251223	31251228
Alum./FKM:	31250285	31250288	31250287	31251224	31251229
Alum./EPDM:	31251211	31251213	31251218	31251225	31251230

according to DIN ISO 2768-mK

- Outer centering ring available in various materials

Sealing ring (o-ring) for KF-centering

KF



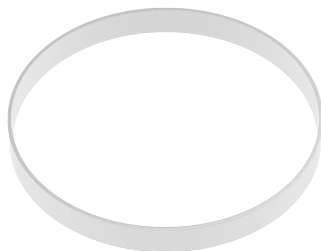
• according to DIN 3771

KF-DN	10	16	20	25	32	40	50	60
		10/16		20/25		32/40		50/60
Øa mm	15	18	25	28	40	42	55	65
b mm	5	5	5	5	5	5	5	5
Art. Nr.:								
NBR:	KT101272	KT103948	KT103949	KT103950	KT103951	KT101275	KT101276	KT101316
FKM:	KT101271	KT103963	KT104098	KT103952	KT103996	KT103953	KT101314	KT101315
EPDM:	KT104097	KT103967	KT104099	KT103965	KT104100	KT103968	KT103964	KT104101

according to DIN ISO 2768-mK

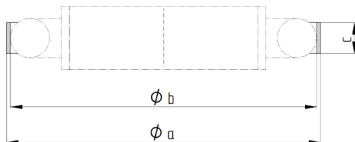
Support ring made of stainless steel

KF



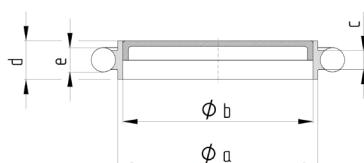
KF-DN	10	16	25	40	50
Øa mm	30	30	40	55	75
Øb mm	27	29	39	53,6	66,6
c mm	3,9	3,9	3,9	3,9	3,9
Art. Nr.:	5051241	50350247	50350166	50351242	50350482

according to DIN ISO 2768-mK



KF-Centering rings with wire mesh and sealing ring

KF



KF-DN	10	16	25	40	50	60
Øa mm	12	17	26	41	52	62
Øb mm	10	16	25	40	50	60
c mm	3,9	3,9	3,9	3,9	3,9	3,9
d mm	8	8	8	8	8	8
e mm	5	5	5	5	5	5

Art. Nr.:

NBR: 31351243 31351246 31351248 31351252 31351254 31351256

FKM: 31351244 31350630 31350628 31350623 31350621 31351257

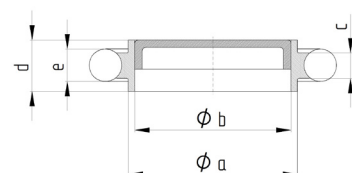
EPDM: 31351245 31351247 31351249 31351253 31351255 31351258

according to DIN ISO 2768-mK

- Mesh size: $w = 0,315$ mm
- Wire thickness: $d = 0,2$ mm 1.4404
- Centering ring: Stainless steel 1.4305
- Also in $w = 1$, $d = 0,315$

KF-Centering ring with filter fleece

KF



KF-DN	10	16	25	40	50	60
Øa mm	12	17	26	41	52	62
Øb mm	10	16	25	40	50	60
c mm	3,9	3,9	3,9	3,9	3,9	3,9
d mm	8	8	8	8	8	8
e mm	5	5	5	5	5	5

Art. Nr.:

NBR: 31351259 31350564 31350569 31351264 31350612 31351269

FKM: 31351260 31350611 31350674 31351265 31351267 31351270

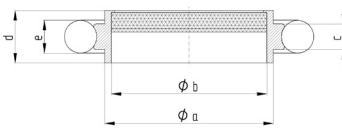
EPDM: 31351261 31351262 31351263 31351266 31351268 31351271

according to DIN ISO 2768-mK

- Mesh size: Pore size 25 μ m
- Filter fleece: Sintered metal fiber fleece 1.4404
- Centering ring: Stainless steel 1.4305

KF-Centering ring with sintered bronze and sealing ring

KF



KF-DN	10	16	25	40	50
Øa mm	12	17	26	41	52
Øb mm	10	16	25	40	50
c mm	3,9	3,9	3,9	3,9	3,9
d mm	8	8	8	8	8
e mm	5	5	5	5	5

Art. Nr.:

NBR: 31351281 31351284 31351287 31351289 31351292

FKM: 31351282 31351285 31351117 31351290 31351293

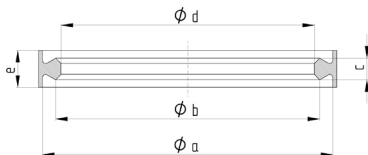
EPDM: 31351283 31351286 31351288 31351291 31351294

according to DIN ISO 2768-mK

- Mesh size: 50µm CuSn
- Filter fleece: Sintered bronze
- Centering ring: Stainless steel 1.4305

KF-Metal sealing outer centering

KF



KF-DN	10/16	20/25	32/40	50/60
Øa mm	30	40	55	75
Øb mm	25	35	50	67
c mm	4	4	4	4,4
Ød mm	23	33	48	65
e mm	7	7	7	7

Art. Nr.: 50050000 50050001 50050002 50050003

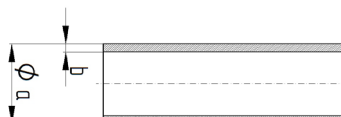
according to DIN ISO 2768-mK

- For stainless steel flange
- No penetration of gases
- Connecting element: [Clamping ring for metal sealing](#)
- Single use
- Material: Aluminium 3.1645

Stainless Steel Pipes

Stainless steel pipes made of stainless steel (1.4301)

KF



- Cut to desired size (max. 6 meters)

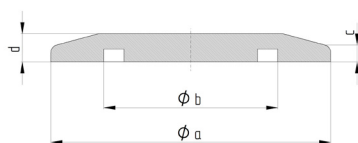
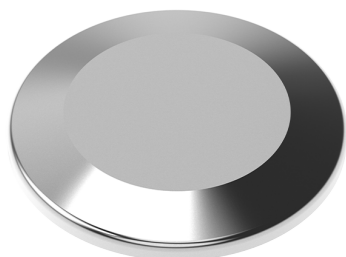
KF-DN	10	16	20	25	32	40	50	60
Øa mm	14	20	25	28	38	44,5	57	64
b mm	2	2	2	2	2	2	2	2
Art. Nr.:	50650032	50650033	50650034	50650035	50650036	50650037	50650038	50650039

according to DIN ISO 2768-mK

Blind Flange

Blind flange for KF-connection made of stainless steel (1.4301) or Aluminium (3.3206)

KF



- Other materials on request

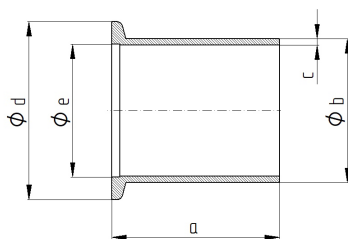
KF-DN	10	16	20	25	32	40	50	60
Øa mm	30	30	40	40	55	55	75	75
Øb mm	12,2	17,2	22,2	26,2	34,2	41,2	52,2	62,2
c mm	3	3	3	3	3	3	3	3
d mm	5,5	5,5	5,5	5,5	5,5	5,5	6	6
Art. Nr.:								
Stainless:	50750040	50750041	50750042	50750043	50750044	50750045	50750048	50750049
Aluminium:	50751297	50750299	50751298	50750297	50751299	50750298	50751300	50751301

according to DIN ISO 2768-mK

Flanges with pipe sockets for welding

KF with pipe socket short or long version

KF



- Other lengths on request
- Material: Stainless 1.4301
- Pressure range: 1×10^{-8} hPa with [o-ring](#);
 1×10^{-9} hPa with [KF metal sealing](#)

Short:

KF-DN	10	16	20	25	32	40	50	60
Øb mm	14	20	25	28	38	44,5	57	64
Ød mm	30	30	40	40	55	55	75	75
Øe mm	12,2	17,2	22,2	26,2	34,2	41,2	52,2	62,2
a mm	22	22	22	22	22	22	22	22
c mm	2	2	2	2	2	2,25	3	2

Art. Nr.:

Stainless:	31950050	31950055	31950056	31950057	31950058	31950059	31950060	31950061
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according to DIN ISO 2768-mK

Long:

KF-DN	10	16	20	25	32	40	50	60
Øb mm	14	20	25	28	38	44,5	57	64
Ød mm	30	30	40	40	55	55	75	75
Øe mm	12,2	17,2	22,2	26,2	34,2	41,2	52,2	62,2
a mm	52	52	55	55	58	58	58	58
c mm	2	2	2	2	2	2	3	2

Art. Nr.:

Stainless:	31950062	31950063	31950064	31950065	31950066	31950067	31950068	31950069
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according to DIN ISO 2768-mK

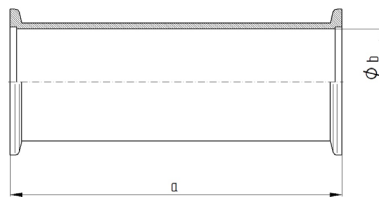
KF Piping Components

- Material: Stainless steel or aluminium (3.2315)
- Leakage rate max.: 10^{-10} mbar*1*s-1
- For use in ultra-high vacuum in conjunction with [KF metal sealing](#)
- Very low gas release due to high-temperature soldering with chromium-nickel solder in high vacuum
- Temperature range: Stainless: -196°C up to 300°C; Aluminium: -196°C up to 150°C
- Special design: With other lengths, corner dimensions and flange arrangement on request

Fittings

Intermediate pipe made of stainless steel (1.4301)

KF



- Other dimensions on request

Short:

KF-DN	10	16	25	40	50	60
Øb mm	10	16	24	40	50	60

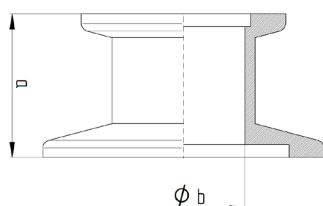
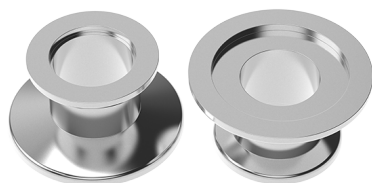
Art. Nr.:

a=60 mm:	32351004	32350101	32350102	32350103	32350104	32350105
a=125 mm:	32351338	32350107	32350108	32350109	32350110	32350111

according to DIN ISO 2768-mK

Reducing piece made of stainless steel (1.4301) or Aluminium, outer centering

KF



KF-DN	20/10	25/16	32/10	32/20	40/16	40/25
Øb mm	10	16	10	21	16	24
a mm	28	28	28	28	28	28
Art. Nr.:						
Stainless:	32351339	32350303	32351340	32351341	32350304	32350302
Aluminium:	-	32350305	-	-	32351342	32350306

according to DIN ISO 2768-mK

KF-DN	50/10	50/16	50/20	50/25	50/32	50/40
Øb mm	10	16	21	24	34	40
a mm	28	28	28	28	28	28
Art. Nr.:						
Stainless:	32351343	32351344	32351346	32350176	32351348	32350183
Aluminium:	-	32351345	-	32351347	-	32351349

according to DIN ISO 2768-mK

KF-DN	60/16	60/20	60/40
Øb mm	10	16	21
a mm	28	28	28
Art. Nr.:			
Stainless:	32351350	32351351	32351352
Aluminium:	-	-	-

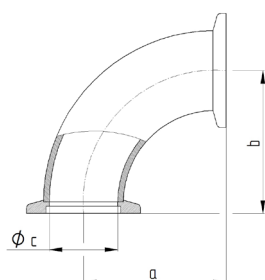
according to DIN ISO 2768-mK

• Other dimensions on request

Elbow

Elbow 90° made of stainless steel (1.4301)

KF



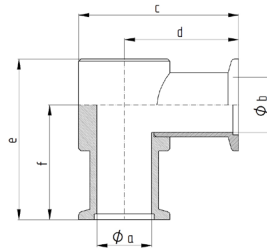
KF-DN1	10	16	25	40	50
KF-DN2	10	16	25	40	50
Øc mm	10	16	24	40,5	51
a mm	40	40	50	65	65
b mm	40	40	50	65	65
Art. Nr.:					
Stainless:	32550399	32550396	32550393	32550387	32550384

according to DIN ISO 2768-mK

• Other dimensions on request

KF-Elbow 90° made of stainless steel (1.4301) or Aluminium (3.3206)

KF



- Material: Stainless steel (1.4305) or aluminium (3.2315)

KF-DN1	10	16	20	25	32	40	50	60
KF-DN2	10	16	20	25	32	40	50	60
Øa mm	10	16	21	24	34	40	51	60
Øb mm	10	16	21	24	34	40	51	60
c mm	55	55	70	70	92,5	92,5	103	103
d mm	40	40	50	50	65	65	65	65
e mm	55	55	70	70	95	95	103	105
f mm	40	40	50	50	65	65	65	65

Art. Nr.:

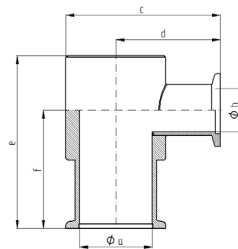
Stainless: 32450721 32450031 32450700 32450180 32451303 32450047 32450703 32451305

Aluminium: 32451048 32451051 32451306 32451053 32451304 32451056 32451307 32451308

according to DIN ISO 2768-mK

KF-reducer-elbow 90° made of stainless steel (1.4301) or Aluminium (3.3206)

KF



- Material: Stainless steel (1.4305) or aluminium (3.2315)

KF-DN1	25	40	40	50	50	50	60	60
KF-DN2	16	16	25	16	25	40	16	40
Øa mm	24	40	40	51	51	51	60	60
Øb mm	16	16	24	16	24	40	16	40
c mm	65	80	85	93,5	93,5	93,5	97	97
d mm	45	52,5	57,5	65	65	65	65	65
e mm	70	95	95	95	95	95	95	95
f mm	50	65	65	65	65	65	65	65

Art. Nr.:

Stainless: 32450969 32451003 32450973 32451321 32451312 32451323 32451325 32451318

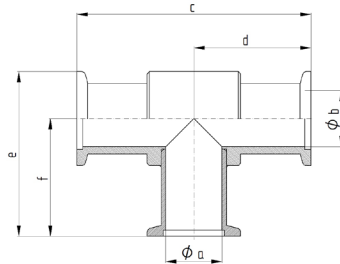
Aluminium: 32451075 32451077 32451106 32451322 32451314 32451324 32451326 32451320

according to DIN ISO 2768-mK

T-Pieces

KF-tees with same flange stainless steel or Aluminium

KF



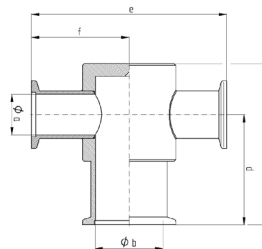
- Material: Stainless steel (1.4305) or aluminium (3.2315)

KF-DN1	10	16	20	25	32	40	50	60
KF-DN2	10	16	20	25	32	40	50	60
KF-DN3	10	16	20	25	32	40	50	60
Øa mm	10	16	21	24	34	40	51	60
Øb mm	10	16	21	24	34	40	51	60
c mm	80	80	100	100	130	130	130	130
d mm	40	40	50	50	65	65	65	65
e mm	55	55	70	70	92,5	92,5	103	103
f mm	40	40	50	50	65	65	65	65
Art. Nr.:Stainless:	32650707	32650310	32651353	32650315	32651354	32650194	32650711	32651355
Art. Nr.:Aluminium:	32651059	32651061	-	32651063	-	32651065	-	-

according to DIN ISO 2768-mK

KF-measuring-tees made of stainless steel (1.4301)

KF



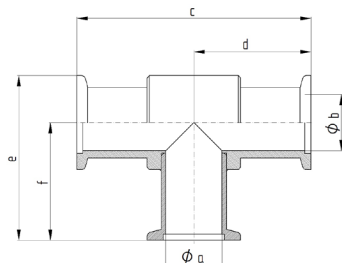
- Material: Stainless steel (1.4305)

KF-DN1	25	25	40	40	50	50	50	60	60	60
KF-DN2	10	16	16	25	16	25	40	16	25	40
KF-DN3	10	16	16	25	16	25	40	16	25	40
Øa mm	10	16	16	24	16	24	40	16	24	40
Øb mm	24	24	40	40	50	50	50	50	50	50
c mm	70	70	95	95	95	95	95	95	95	95
d mm	50	50	65	65	65	65	65	65	65	65
e mm	90	90	105	115	130	130	130	130	130	130
f mm	45	45	52,5	57,5	65	65	65	65	65	65
Art. Nr.:	32651368	32651040	32650959	32650957	32651373	32651371	32651374	32651377	32651378	32651375

according to DIN ISO 2768-mK

KF-reducer-tees made of stainless steel (1.4301) or Aluminium (3.3206)

KF



- Material: Stainless steel (1.4305) or aluminium (3.2315)

KF-DN1	25	25	40	40	40	50	50	50	50
KF-DN2	25	25	40	40	40	50	50	50	50
KF-DN3	10	16	10	16	25	10	16	25	40
Øa mm	10	16	10	16	24	10	16	24	40
Øb mm	24	24	40	40	40	51	51	51	51
c mm	100	100	130	130	130	130	130	130	130
d mm	50	50	65	65	65	65	65	65	65
e mm	65	65	80	80	85	102,5	102,5	102,5	102,5
f mm	45	45	52,5	52,5	57,5	65	65	65	65
Art. Nr.:									
Stainless:	32650719	32650307	32650994	32650990	32650996	32651361	32651362	32651359	32651363
Aluminium:	-	32650251	-	52551112	32651111	-	-	-	-

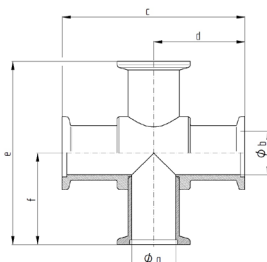
KF-DN1	60	60	60
KF-DN2	60	60	60
KF-DN3	16	25	40
Øa mm	16	24	40
Øb mm	60	60	60
c mm	130	130	130
d mm	65	65	65
e mm	102,5	102,5	102,5
f mm	65	65	65
Art. Nr.:			
Edelstahl:	32651366	32651367	32651364

according to DIN ISO 2768-mK

Cross Pieces

KF-cross piece with same flange size

KF



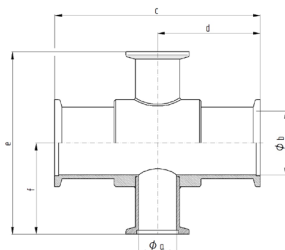
- Material: Stainless steel (1.4305)
or aluminium (3.2315)

KF-DN	10	16	20	25	32	40	50	60
Øa mm	10	16	21	24	34	40	51	60
Øb mm	10	16	21	24	34	40	51	60
c mm	80	80	100	100	130	130	130	130
d mm	40	40	50	50	65	65	65	65
e mm	80	80	100	100	130	130	130	130
f mm	40	40	50	50	65	65	65	65
Art. Nr.:								
Stainless:	32750713	32750199	32751379	32750602	32751380	32750716	32751381	32751383
Aluminium:	32751067	32751069		32751071		32751073		

according to DIN ISO 2768-mK

KF-measuring cross piece / KF-reducer-cross piece

KF



- Material: Stainless steel (1.4305)
or aluminium (3.2315)

KF-DN1	25	25	40	40	40	50	50	50	60
KF-DN2	25	25	40	40	40	50	50	50	60
KF-DN3	10	16	10	16	25	10	25	40	10
KF-DN4	10	16	10	16	25	10	25	40	10
Øa mm	10	16	10	16	24	10	24	40	10
Øb mm	24	24	40	40	40	51	51	51	60
c mm	100	100	130	13	130	130	130	130	130
d mm	50	50	65	65	65	65	65	65	65
e mm	90	90	105	105	115	130	130	130	130
f mm	42	45	52,5	52,5	57,5	65	65	65	65

Art. Nr.:

Stainless:	32750984	32750167	32751001	32750988	32751385	35751388	32751386	32751389	32751392
Aluminium:	-	32751095	-	32751104	32751108	-	-	-	-

KF-DN1	60	60	60
KF-DN2	60	60	60
KF-DN3	16	25	40
KF-DN4	16	25	40
Øa mm	16	24	40
Øb mm	60	60	60
c mm	130	130	130
d mm	65	65	65
e mm	130	130	130
f mm	65	65	65

Art. Nr.:

Edelstahl:	32751393	32751394	32751390
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according to DIN ISO 2768-mK

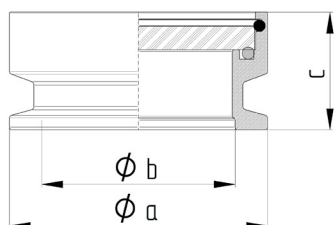
KF sight glasses

KF



KF-DN1	25	40	50
Øa mm	40	55	75
Øb mm	26,2	41,2	52,2
c mm	25	25	25
Art. Nr.:	30751134	30751135	30751136

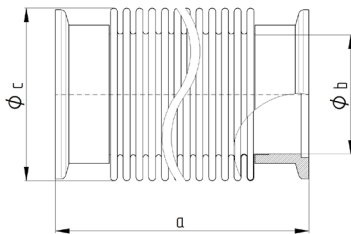
according to DIN ISO 2768-mK



- Stainless steel frame
- Glass: Soda-lime
- O-Ring: FKM (Viton)

Flexible Connectors

Superflex - High-vacuum-annealed version made of material 1.4541



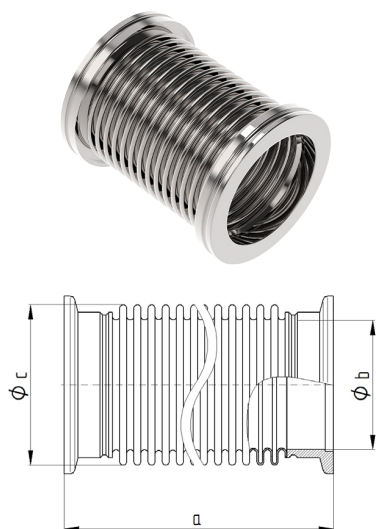
- Spring elements are used to compensate for vibrations and thermal expansion.
- Extremely stretchable and flexible.
- Pressure range: 1×10^{-8} hPa
- Temperature range: -196°C to 300°C
- The bending angle at a length of 120 mm is greater than 90° .
- Maximum load cycle: 1000
- Other dimensions and unannealed versions available upon request.

KF-DN	10	10	10	10	16	16
a mm	60	70	100	120	60	70
Øb mm	10	10	10	10	16	16
Øc mm	14,5	14,5	14,5	14,5	24	24
Axial stroke mm	± 5	± 5	± 10,5	± 10,5	± 5	± 5
Art.Nr.:	33250500	33250503	33250501	33250505	33250509	33250511
KF-DN	16	16	25	25	25	25
a mm	100	120	60	70	100	120
Øb mm	16	16	24	24	24	24
Øc mm	24	24	36,5	36,5	36,5	36,5
Axial stroke mm	± 12,5	± 12,5	± 5,5	± 5,5	± 11	± 11
Art.Nr.:	33250513	33250514	33250519	33250518	33250520	33250521
KF-DN	40	40	40	40	50	50
a mm	60	70	100	120	60	70
Øb mm	40	40	40	40	51	51
Øc mm	56	56	56	56	66	66
Axial stroke mm	± 5	± 5	± 12	± 12	± 5	± 5
Art.Nr.:	33250523	33250525	33250487	33250489	33250527	33250529
KF-DN	50	50	60	60		
a mm	100	120	60	70		
Øb mm	51	51	60	60		
Øc mm	66	66	84	84		
Axial stroke mm	± 12	± 12	± 8,5	± 8,5		
Art.Nr.:	33250530	33250532	33250537	33250539		

according to DIN ISO 2768-mK

Vacuum Hoses

KF vacuum hose made of stainless steel



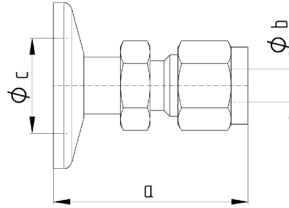
- Highly flexible due to solution annealing in high vacuum
- Pressure range: 1×10^{-8} hPa
- Temperature range: -196°C up to 300°C
- Stainless steel 1.4301/1.4404
- Custom lengths on request

KF-DN	10	10	10	10	16	16
a mm:	250	500	750	1000	250	500
Øb mm:	10	10	10	10	16	16
Øc mm:	14,3	14,3	14,3	14,3	21,7	21,7
Art.Nr.:	33351400	33351399	33350775	33350773	33350428	33350430
KF-DN	16	16	25	25	25	25
a mm:	750	1000	250	500	750	1000
Øb mm:	16	16	24	24	24	24
Øc mm:	21,7	21,7	32,2	32,2	32,2	32,2
Art.Nr.:	33350432	33350421	33350434	33350436	33350438	33350440
KF-DN	40	40	40	40	50	50
a mm:	250	500	750	1000	250	500
Øb mm:	40	40	40	40	51	51
Øc mm:	49,7	49,7	49,7	49,7	60,3	60,3
Art.Nr.:	33350442	33350448	33350450	33350452	33350454	33350456
KF-DN	50	50				
a mm:	750	1000				
Øb mm:	51	51				
Øc mm:	60,3	60,3				
Art.Nr.:	33350458	33350460				

according to DIN ISO 2768-mK

ISO-KF Adapter

Flange welded with SWAGELOK®



- SWAGELOK® = TM Crawford Fitting Company
- Temperature range: -196°C up to 300°C
- Pressure range: 1×10^{-8} hPa with [o-ring](#);
 1×10^{-9} hPa with [KF metal sealing ring](#)

Pipe fitting for metric pipe

KF-DN	16	16	16	25	25	25	25
a mm	34	35	41	34	35	41	43,5
Øb for pipe [mm]:	4	6	8	4	6	8	10
Øc mm	17,2	17,2	17,2	26,2	26,2	26,2	26,2
Swagelok® screw connection:	SS-4M0-1-2W	SS-6M0-1-2W	SS-8M0-1-4W	SS-4M0-1-2W	SS-6M0-1-2W	SS-8M0-1-4W	SS-10M0-1-6W
Art. Nr.:	33551401	33550197	33550196	33551402	33550323	33551403	33551140

KF-DN	25	40	40	40	40	40	40
a mm	46	34	35	41	43,5	46	
Øb for pipe [mm]:	12	4	6	8	10	12	
Øc mm	26,2	41,2	41,2	41,2	41,2	41,2	
Swagelok® screw connection:	SS-12M0-1-6W	SS-4M0-1-SW	SS-6M0-1-2W	SS-8M0-1-4W	SS-10M0-1-6W	SS-12M0-1-6W	
Art. Nr.:	33550799	33551404	33551405	33551406	33551141	33550209	

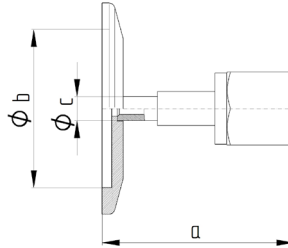
Screw connection for inch pipe

KF-DN	16	16	16	25	25	25	25
a mm	33	40	42,5	33	40	42,5	51,5
Øb for pipe [inch]:	1/8	1/4	3/8	1/8	1/4	3/8	1/2
Øc mm	17,2	17,2	17,2	26,2	26,2	26,2	26,2
Swagelok® screw connection:	SS-200-1-2W	SS-400-1-4W	SS-600-1-6W	SS-200-1-2W	SS-400-1-4W	SS-600-1-6W	SS-810-1-8W
Art. Nr.:	33551407	33551408	33551409	33551410	33551411	33551412	33551413

KF-DN	25	40	40	40	40	40	40
a mm	65	33	40	42,5	51,5	65	
Øb for pipe [inch]:	1	1/8	1/4	3/8	1/2	1	
Øc mm	26,2	41,2	41,2	41,2	41,2	41,2	
Swagelok® screw connection:	SS-1610-1-16W	SS-200-1-2W	SS-400-1-4W	SS-600-1-6W	SS-810-1-8W	SS-1610-1-16W	
Art. Nr.:	33551414	33551415	33551416	33551417	33551418	33551419	

Flange welded with VCR® nozzle including union nut

KF

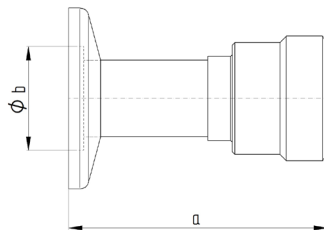


KF-DN	16	16	16	
for pipe [inch]:	1/8	1/4	1/2	
a mm	30	50	56,5	
Øb mm	17,2	17,2	17,2	
Øc inch	1/8	1/4	1/2	
VCR® nozzle:	SS-2-VCR-3-2MTW	SS-4-VCR-3-4MTW	SS-8-VCR-3-8MTW	
VCR® union nut:	SS-2-VCR-1	SS-4-VCR-1	SS-8-VCR-1	
Art. Nr.:	33651420	33651143	33651421	
KF-DN	25	25	25	25
for pipe [inch]:	1/8	1/4	1/2	1
a mm	30	50	56,5	84
Øb mm	26,2	26,2	26,2	26,2
Øc Zoll	1/8	1/4	1/2	1
VCR® nozzle:	SS-2-VCR-3-2MTW	SS-4-VCR-3-4MTW	SS-8-VCR-3-8MTW	SS-16-VCR-3-16MTW
VCR® union nut:	SS-2-VCR-1	SS-4-VCR-1	SS-8-VCR-1	SS-16-VCR-1
Art. Nr.:	33651422	33650291	33651423	33651424
KF-DN	40	40	40	40
for pipe [inch]:	1/8	1/4	1/2	1
a mm	30	50	56,5	84
Øb mm	41,2	41,2	41,2	41,2
Øc Zoll	1/8	1/4	1/2	1
VCR® nozzle:	SS-2-VCR-3-2MTW	SS-4-VCR-3-4MTW	SS-8-VCR-3-8MTW	SS-16-VCR-3-16MTW
VCR® union nut:	SS-2-VCR-1	SS-4-VCR-1	SS-8-VCR-1	SS-16-VCR-1
Art. Nr.:	33651425	33651144	33651426	33651427

according to DIN ISO 2768-mK

Flange welded with Ultra-TorrFitting®

KF



KF-DN	16	16
for pipe [inch]:	1/4	3/8
a mm	36,5	43
Øb mm	17,2	17,2
UT® nozzle:	SS-4-UT-A-6	SS-6-UT-A-8
Art. Nr.:	33751428	33751295

KF-DN	25	25	25	25
for pipe [inch]:	1/4	3/8	1/2	1
a mm	36,5	43	45	50
Øb mm	26,2	26,2	26,2	26,2
UT® nozzle:	SS-4-UT-A-6	SS-6-UT-A-8	SS-8-UT-A-12	SS-16-UT-A-20
Art. Nr.:	33751429	33751431	33751433	33751435

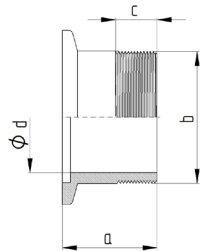
KF-DN	40	40	40	40
for pipe [inch]:	1/8	1/4	1/2	1
a mm	36,5	43	45	50
Øb mm	41,2	41,2	41,2	41,2
UT® nozzle:	SS-4-UT-A-6	SS-6-UT-A-8	SS-8-UT-A-12	SS-16-UT-A-20
Art. Nr.:	33751430	33751432	33751432	33751436

according to DIN ISO 2768-mK

Special Connections

Screw-in flange with male thread

KF



- For connections for vacuum technology, we recommend using teflon tape for sealing.
- Temperature range: 196°C up to 300°C
- Material: Stainless steel (1.4305) or aluminium (3.2315)
- Other screw-in fittings, including internal threads, metric threads, and special threads (e.g., NPT threads) on request

KF-DN	10	10	10	16	16	16
a mm	30	30	30	30	30	30
b inch	G ¼	G 3/8	G ½	G ¼	G 3/8	G ½
c mm	12	12	12	12	12	12
Ød mm	9	10	10	9	10	16

Art.Nr.:

Stainless 51250475 51251442 51250671 51250254 51250201 51250270

Aluminium 51251441 51251443 51251444 51251445 51250202 51251446

KF-DN	20	20	20	25	25	25
a mm	30	30	30	30	30	30
b inch	G 3/8	G ½	G ¾	G 3/8	G ½	G ¾
c mm	12	12	12	12	12	12
Ød mm	10	16	20	10	16	20

Art.Nr.:

Stainless 51251447 51251449 51251451 51251543 51251078 51251079

Aluminium 51251448 51251452 51251454 51250801

KF-DN	25	40	40	50
a mm	30	30	30	35
b inch	G 1	G 1 ¼	G 1 ½	G 2
c mm	12	12	12	16
Ød mm	24	36	40	51

Art.Nr.:

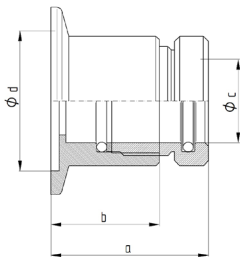
Stainless 51250215 51250272 51250271 51250266

Aluminium 51251127 51250246 51251455 51251302

according to DIN ISO 2768-mK

Compression fitting made of stainless steel (1.4305)

KF



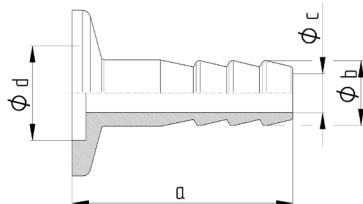
KF-DN	10	10	40	40	40
a mm	38	38	43	43	43
b mm	23	23	32	32	32
Øc mm	8	10	20	24	25
Ød mm	12,2	12,2	41,2	41,2	41,2
Art. Nr.:	33851437	33851438	33851439	33850836	33851440

according to DIN ISO 2768-mK

- Used as a quick and inexpensive glass-to-metal or metal-to-metal connection. Glass and metal pipes (outer diameter = c) can be easily assembled in a vacuum-tight manner
- Other dimensions available upon request
- FKM (Viton) seal

KF hose connector made of stainless steel (1.4301) or aluminium (3.3206)

KF



- Connecting element: [Hose clamp](#) (see accessories)
- Other combinations on request

KF-DN	10	16	25	25	40	40	20
a mm	40	40	40	40	40	40	40
Øb mm	12	12	16	20	16	20	25
Øc mm	7	7	12	16	12	16	20
Ød mm	12,2	17,2	26,2	26,2	41,2	41,2	41,2
Art.Nr.:							
Stainless	32051456	32050631	32051458	32051460	32051462	32051464	32051466
Aluminium	32050477	32051457	32051459	32051461	32051463	32051465	32051467

Øb = Inner diameter of the hose to be used

according to DIN ISO 2768-mK

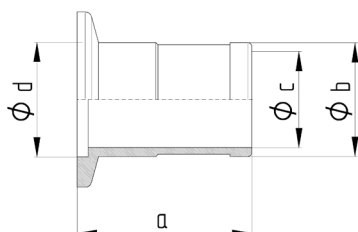
Hose adapter made of stainless steel for PVC-hose

KF



KF-DN	16	25	40	40
a mm	40	40	40	40
Øb mm	20	26	46	41
Øc mm	16	22	40	38
Ød mm	17,2	26,2	41,2	38
Art.Nr.:	52751468	52750053	52751469	52751470

according to DIN ISO 2768-mK



- Connecting element: hose clamp
- Material: Stainless steel (1.4305)

Hose clamp made of stainless steel

KF



KF-DN	16	25	40
Art.Nr.:	KT101274	KT104092	KT101277

- Suitable for hose connectors
- DIN 3071

PVC hose transparent with cast-in support spiral

KF



KF-DN	16	25	40	40
Øa mm	19	25	45	40
Øb mm	26	33	57	48
Art.Nr.:	57151471	57151472	57150919	57151473

according to DIN ISO 2768-mK

- Connecting element: [Hose clamp](#) (see accessories)
- Material: Stainless steel (1.4305)



PVC hose with KF-nozzle

KF

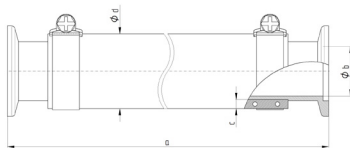


KF-DN	16	16	16	25	25	25
a mm	250	500	1000	250	500	1000
Øb mm	16	16	16	22	22	22
c mm	3,5	3,5	3,5	4	4	4
Ød mm	26	26	26	33	33	33
Art.Nr.:	33451474	33451475	33451476	33451477	33451478	33451147

KF-DN	40	40	40	40	40	40
a mm	250	500	1000	250	500	1000
Øb mm	40	40	40	38	38	38
c mm	6	6	6	4	4	4
Ød mm	57	57	57	48	48	48
Art.Nr.:	33451479	33451480	33451481	33451482	33451483	33451484

according to DIN ISO 2768-mK

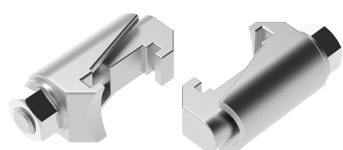
- Connecting element: [Hose clamp](#) (see accessories)
- Material: Stainless steel (1.4305)



ISO-K Flange

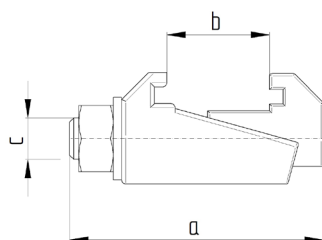
ISO-K Fastening Elements

Bracket screw made of stainless steel or galvanized steel



DN	63-250	320-500
a mm	60	70
b mm	17-27	29-34
c mm	M10	M12
Art.Nr.:		
Galvanized steel:	30450301	30450724
Stainless steel:	30450164	30450725

according to DIN ISO 2768-mK



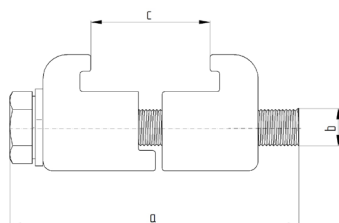
- Suitable for use with [o-rings](#) and metal sealings
- Torque: DN63-250: ; DN320-630:
- Temperature range:
Stainless steel: 196°C up to 300°C
Galvanized steel: 0°C up to 200°C

Bracket screw made of aluminium



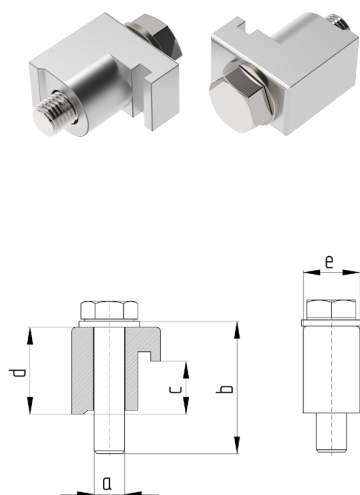
DN	63-250	320-500
a mm	60	60
b mm	M8	M10
c mm	24-27	27-32
Art.Nr.:		
Aluminium:	30450734	30450728

according to DIN ISO 2768-mK



- Suitable for use with [o-rings](#)
- Torque: DN63-250: ; DN320-630:

Claw clamp for base plate steel, stainless steel or aluminium with screw and washer

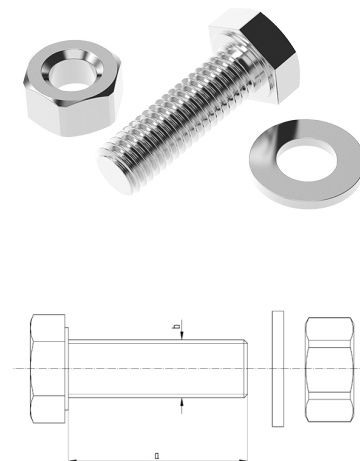


DN	63-100	160-250
a mm	M8	M10
b mm	35	35
c mm	14	14
d mm	23	23
e mm	17	17
Art.Nr.:		
Galvanized steel:	30550727	30551521
Stainless steel:	30550309	30550726
Aluminium:	30550729	30550732

according to DIN ISO 2768-mK

- Galvanized steel and stainless steel: Suitable for use with [o-rings](#) and metal sealings
- Aluminium: Suitable for use with [o-rings](#)

ISO-K screw set

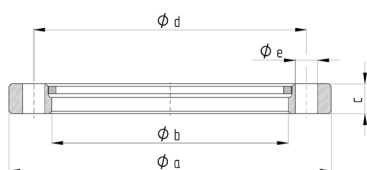


DN	63	100	160	200/250	320
a mm	40	40	55	55	70
Øb mm	M8	M8	M10	M10	M12
Pack (pcs.)	4	8	8	12	12
Art.Nr.:	30651522	30651523	30651524	30651525	30651526

DN	400	500
a mm	70	80
Øb mm	M12	M12
Pack (pcs.)	16	16
Art.Nr.:	30651527	30651528

according to DIN ISO 2768-mK

Collar flange with snap ring



DN	63	100	160	200	250
Øa mm	130	165	225	285	335
Øb mm	95,5	130,5	180,7	240,7	290,7
c mm	12	12	16	16	16
Ød mm	110	145	200	260	310
Øe mm x number	Ø9 x 4	Ø9 x 8	Ø11 x 8	Ø11 x 12	Ø11 x 12

Art.Nr.:

Galvanized steel: 31850292 31851490 31851492 31851494 31851496

Stainless steel: 31851489 31851491 31851493 31851495 31851497

according to DIN ISO 2768-mK

DN	320	400	500
Øa mm	425	510	610
Øb mm	370,8	458,8	558,8
c mm	20	20	20
Ød mm	395	480	580
Øe mm x number	Ø14 x 12	Ø14 x 16	Ø14 x 16

Art.Nr.:

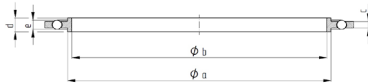
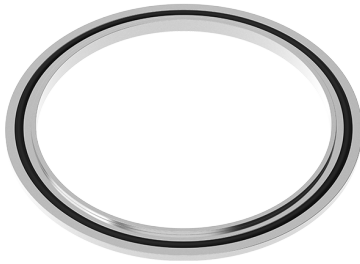
Galvanized steel: 31851498 31851500 31851502

Stainless steel: 31851499 31851501 31851503

- Galvanized steel (1.0037) or stainless steel (1.4301)
- Fastening: [ISO-K screw set](#)

ISO-K Sealing Elements

Centering ring with outer ring and sealing ring (O-ring)



DN	63	100	160	200	250
Øa mm	70	102	153	213	261
Øb mm	68	100	148	208	256
c mm	3,9	3,9	3,9	3,9	3,9
d mm	8	8	8	8	8
e mm	5,33	5,33	5,33	5,33	5,33

Art.Nr.:

Stainless / NBR:	31451504	31451116	31451506	31451508	31451511
Stainless / FKM:	31450355	31450350	31450360	31450365	31451512
Stainless / EPDM:	31451534	31451536	31451538	31451540	31451542
Aluminium / NBR:	31450879	31451505	31451507	31451509	31451513
Aluminium / FKM:	31450358	31450354	31450363	31451510	31451514
Aluminium / EDPM:	31451535	31451537	31451539	31451541	31451543

DN	320	400	500	630
Øa mm	318	400	501	651
Øb mm	313	395	496	646
c mm	5,6	5,6	5,6	5,6
d mm	14	14	14	14
e mm	6,99	6,99	6,99	6,99

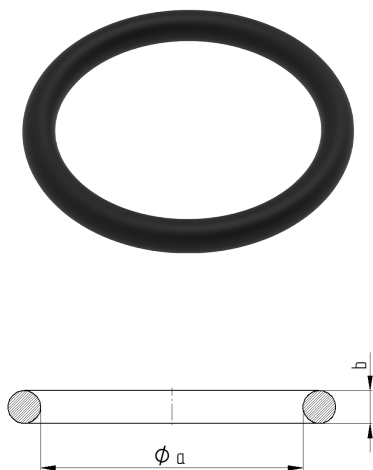
Art.Nr.:

Stainless / NBR:	31451515	31451518	31451548	31451554
Stainless / FKM:	31450212	31450646	31451549	31451555
Stainless / EPDM:	31451544	31451546	31451550	31451556
Aluminium / NBR:	31451516	31451519	31451551	31451557
Aluminium / FKM:	31451517	31451520	31451552	31451558
Aluminium / EDPM:	31451545	31451547	31451553	31451559

according to DIN ISO 2768-mK

- Outer ring: Aluminium 3.1645
- Centering ring: Stainless steel 1.4301

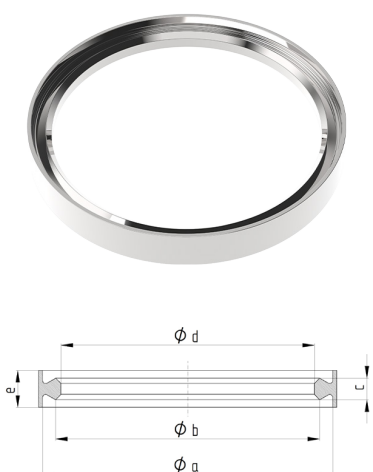
Replacement sealing ring (o-ring)



DN	63	100	160	200	250
Øa mm	75,6	107,3	151,8	208,9	253,4
b mm	5,33	5,33	5,33	5,33	5,33
Art.Nr.:					
NBR:	KT101293	KT104085	KT104111	KT104112	KT104113
FKM:	KT104011	KT101326	KT104012	KT104013	KT104114
EPDM:	KT104121	KT104086	KT104122	KT104123	KT104124
DN	320	400	500	630	
Øa mm	329,57	405,3	506,9	658,9	
b mm	6,99	6,99	6,99	6,99	
Art.Nr.:					
NBR:	KT104115	KT104116	KT104118	KT104120	
FKM:	KT103977	KT104041	KT104117	KT104119	
EPDM:	KT104125	KT104126	KT104127	KT104128	

according to DIN ISO 2768-mK

ISO-K metal sealing ring outside centered

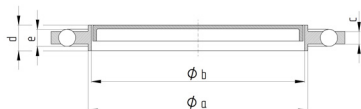


DN	63	100	160	200	250
Øa mm	95	130	180	240	290
Øb mm	88	123	173	233	283
c mm	4,5	4,5	4,5	4,5	4,5
Ød mm	85	120	170	230	280
e mm	7	7	7	7	7
Art. Nr.:	50051529	50050484	50051530	50051531	50051532

according to DIN ISO 2768-mK

- For stainless steel flanges
- No gas penetration
- Single-use
- Material: Aluminium 3.3206

Centering ring with outer ring, sealing ring (o-ring) and filter fleece

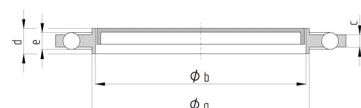
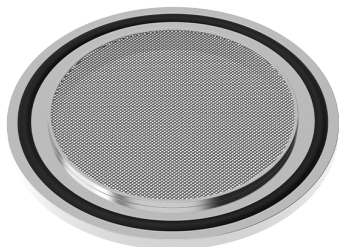


DN	63	100	160
Øa mm	70	102	153
Øb mm	68	100	148
c mm	3,9	3,9	3,9
d mm	8	8	8
e mm	5,33	5,33	5,33
Art. Nr.:			
NBR:	31551576	31551579	31551582
FKM:	31551577	31551580	31551583
EPDM:	31551578	31551581	31551584

according to DIN ISO 2768-mK

- Mesh size: Pore size 25 µm
- Filter fleece: Sintered metal fiber fleece 1.4404
- Outer ring: Aluminium 3.1645
- Centering ring: Stainless steel 1.4301

Centering ring with outer ring, sealing ring (o-ring) and wire mesh



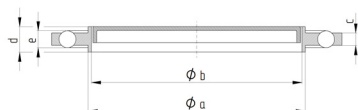
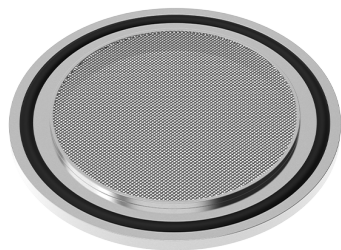
DN	63	100	160
Øa mm	70	102	153
Øb mm	68	100	148
c mm	3,9	3,9	3,9
d mm	8	8	8
e mm	5,33	5,33	5,33
Art. Nr.:			
Perbunan:	31551567	31551570	31551573
Viton:	31551568	31551571	31551574
EPDM	31551569	31551572	31551575

according to DIN ISO 2768-mK

- Mesh size: w=0,315mm
- Wire thickness: s=0,2mm
- Outer ring: Aluminium 3.1645
- Centering ring: Stainless steel 1.4305

Centering ring with outer ring, sealing ring (o-ring) and wire mesh

ISO



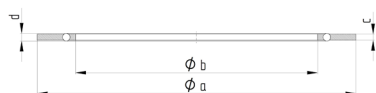
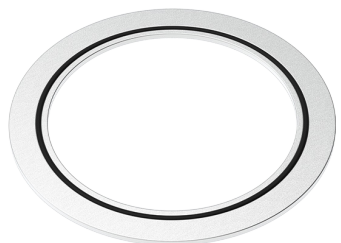
DN	63	100	160
Øa mm	70	102	153
Øb mm	68	100	148
c mm	3,9	3,9	3,9
d mm	8	8	8
e mm	5,33	5,33	5,33
Art. Nr.:			
NBR:	31551560	31551562	31551565
FKM:	31551151	31551563	31550483
EPDM:	31551561	31551564	31551566

according to DIN ISO 2768-mK

- Mesh size: $w = 3,15\text{mm}$
- Wire thickness: $s = 0,8\text{mm}$
- Outer ring: Aluminium 3.1645
- Centering ring: Stainless steel .14301

Sealing disc made of aluminium

ISO

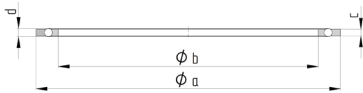
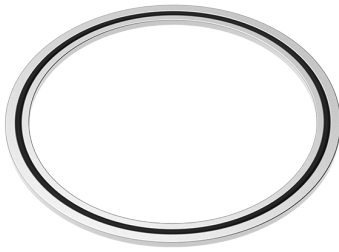


DN	63	100	160	200	250
Øa mm	117	154	208	272	318
Øb mm	71	104	158	214	264
c mm	4	4	4	4	4
d mm	5,33	5,33	5	5,33	5,33
Art. Nr.:					
NBR :	31651585	31651587	31651589	31651591	31651594
FKM:	31650466	31650463	31650334	31651592	31651595
EPDM:	31651586	31651588	31651590	31651593	31651596

according to DIN ISO 2768-mK

- Material: Aluminium (3.2315)
- DIN 2501

Sealing disc made of stainless steel



DN	63	100	160	200
Øa mm	98	131	185	239
Øb mm	71	104	158	214
c mm	4	4	4	4
d mm	5,33	5,33	5	5,33
Art. Nr.:				
NBR :	31651597	31651600	31651603	31651605
FKM:	31651598	31651601	31650122	31651606
EPDM:	31651599	31651602	31651604	31651607

according to DIN ISO 2768-mK

- Material: Stainless steel (1.4305)
- For ISO-F connections

ISO Stainless Steel Pipes

Stainless Steel Pipes made of stainless steel (1.4301)



- Stainless steel pipes made of Material no.1.4301
- Cut to desired size (max. 6 meters)

DN	63	100	160	200	250	320	400	500	630
Øa mm	76,1	108	159	219	267	323,9	406,4	508	660,4
b mm	3	3	3	3	3	3	3	4	5
Art. Nr.:	50650078	50650079	50650080	50650081	50650082	50650083	50650084	50650085	50650086

according to DIN ISO 2768-mK

ISO-K Blind Flange

ISO-K blind flange made of stainless steel (1.4301) or aluminium (3.2315)



DN	63	100	160	200	250
Øa mm	95	130	180	240	290
Øb mm	70	102	153	213	261
c mm	12	12	12	12	12
d mm	5	5	5	5	5

Art. Nr.:

Stainless: 50750087 50750088 50750089 50750090 50750091

Aluminium: 50751617 50751618 50751619 50751620 50751621

DN	320	400	500	630
Øa mm	370	450	550	690
Øb mm	318	400	501	651
c mm	17	17	17	22
d mm	7	7	7	7

Art. Nr.:

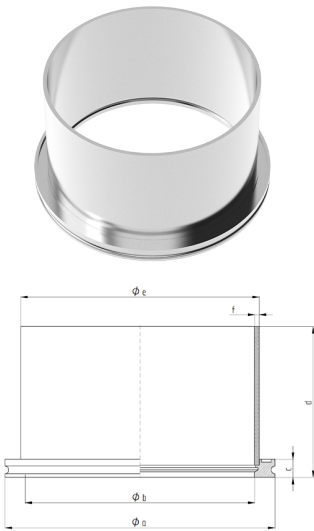
Stainless: 50750092 50750093 50750094 50750095

according to DIN ISO 2768-mK

- Pressure range: 1×10^{-8} hPa with o-ring; 1×10^{-9} hPa with [ISO-K metal sealing ring](#)
- Temperature range: -196°C up to 300°C

ISO Flange with Pipe Socket

ISO-K with pipe socket short or long version



Short:

DN	63	100	160
Øa mm	95	130	180
Øb mm	70	102	153
c mm	12	12	12
d mm	50	50	50
Øe mm	76,1	108	159
f mm	3	3	3
Art. Nr.:	31951608	31951609	31950506

according to DIN ISO
2768-mK

Long:

DN	63	100	160	200	250	320
Øa mm	95	130	180	240	290	370
Øb mm	70	102	153	213	261	318
c mm	12	12	12	12	12	17
d mm	100	100	100	100	100	100
Øe mm	76,1	108	159	219	267	323,9
f mm	3	3	3	3	3	3
Art. Nr.:	31950378	31950377	31950380	31951610	31951612	31951613

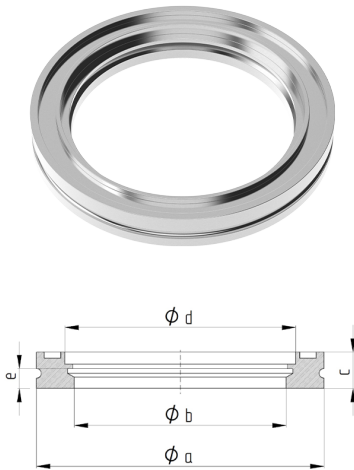
according to DIN ISO 2768-mK

DN	400	500	630
Øa mm	450	550	690
Øb mm	400	501	651
c mm	17	17	22
d mm	100	100	100
Øe mm	406,4	508	660,4
f mm	3	4	5
Art. Nr.:	31951614	31951615	31951616

Short/Long:

- Stainless steel: 1.4301
- Pressure range: 1×10^{-8} hPa with O-Ring; 1×10^{-9} hPa with [ISO-K metal sealing ring](#)
- Temperature range: -196°C up to 300°C

ISO-K clamp welding flange with welding lip



DN	63	63	100	100	100	100
Øa mm	95	95	130	130	130	130
Ød mm	76,3	70	108,3	104,3	114,3	102
c mm	12	12	12	12	12	12
Øb mm	70	70	102	102	102	102
e mm	6,5	6,5	6,5	6,5	6,5	6,5
Art. Nr.:	51150096	51151622	51150097	51151623	51151235	51151624

DN	160	160	200	200	250	250
Øa mm	180	180	240	240	290	290
Øb mm	159,3	154,2	219,4	204,3	267,4	273,4
c mm	12	12	12	12	12	12
Ød mm	153	153	213	213	261	261
e mm	6,5	6,5	6,5	6,5	6,5	6,5
Art. Nr.:	51150098	51151625	51150099	51151626	51150100	51151627

DN	250	320	400	500	630
Øa mm	290	370	450	550	690
Øb mm	254,3	324,5	407	508,5	661
c mm	12	17	17	17	22
Ød mm	261	318	400	501	651
e mm	6,5	8	8	8	12
Art. Nr.:	51151628	51150802	51151629	51151630	51151631

according to DIN ISO 2768-mK

- Version with welding lip
- Pressure range: 1x10⁻⁸ hPa with o-ring; 1x10⁻⁹ hPa with light metal sealing
- Temperature range: 196°C up to 300°C
- Material: Stainless steel 1.4301
- Version without welding lip possible
- Other nominal diameters on request

ISO Clamp Flange - Piping Components

Fittings

- Stainless steel 1.4301
- Pressure range: 1×10^{-8} hPa with o-ring; 1×10^{-9} hPa with Leichtmetall-Dichtung
- Temperature range: 196°C up to 300°C
- Other nominal diameters and combinations on request

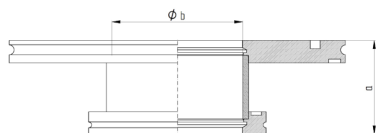
ISO-K Reducing piece straight



DN	100/63	160/63	200/63	250/63	160/100	200/100
a mm	50	50	50	50	50	50
Øb mm	70	70	70	70	102	102
Art. Nr.:	32350404	32350660	32351632	32351633	32350695	32351635

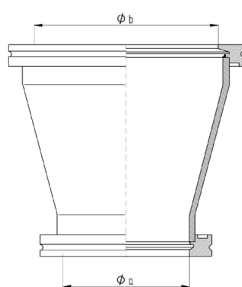
DN	250/100	200/160	250/160	250/200
a mm	50	100	100	100
Øb mm	102	153	153	213
Art. Nr.:	32351636	32351637	32351638	32351639

according to DIN ISO 2768-mK



- Other nominal diameters and combinations on request

ISO-K reducer piece conical



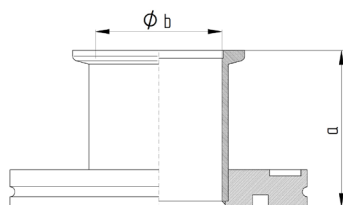
DN	100/63	160/63	200/63	250/63	160/100	200/100
Øa mm	70	70	70	70	102	102
Øb mm	102	153	213	261	153	213
Art. Nr.:	32951234	32951640	32951641	32951642	32951643	32951644

DN	250/100	200/160	250/160	250/200
a mm	102	153	213	213
Øb mm	261	213	261	261
Art. Nr.:	32951645	32951646	32951647	32951648

according to DIN ISO 2768-mK

- Other nominal diameters and combinations on request

ISO-K reducer piece straight



DN1 ISO-K	63	63	63	63	100	100
DN2 KF	16	25	40	50	40	50
a mm	50	50	50	50	50	50
Øb mm	16	24	40,5	51	40,5	51
Art. Nr.:	33051650	33051651	33050295	33051652	33051653	33051654

according to DIN ISO 2768-mK

- Other nominal diameters and combinations on request

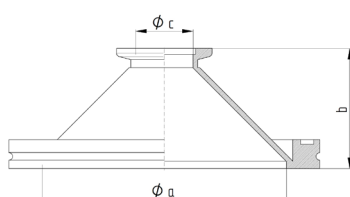
ISO-K intermediate reducer piece conical



DN1 ISO-K	63	63	63	100	100
DN2 KF	25	40	50	25	40
Øa mm	70	70	70	102	102
b mm	50	50	50	50	50
Øc mm	24	40,5	51	54	40,5
Art. Nr.:	33151657	33151658	33151659	33151238	33151660

according to DIN ISO 2768-mK

- Other nominal diameters and combinations on request



Elbows

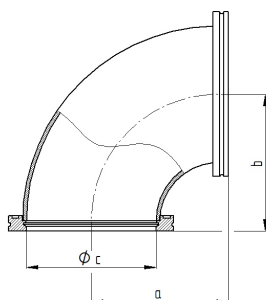
Elbow 90° made of stainless steel



DN	63	100
a mm	88	108
b mm	88	108
Øc mm	70	102
Art. Nr.:	32550401	32550403

according to DIN ISO 2768-mK

- Other nominal diameters and combinations on request



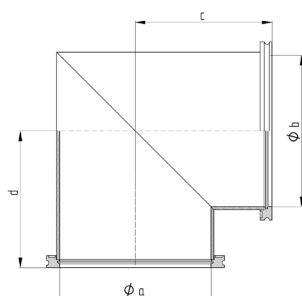
Elbow 90° made of stainless steel



DN	160	200	250
Øa mm	153	231	261
Øb mm	153	231	261
c mm	138	178	208
d mm	138	178	208
Art. Nr.:	32451251	32451661	32451662

according to DIN ISO 2768-mK

- Other nominal diameters and combinations on request



T-Pieces

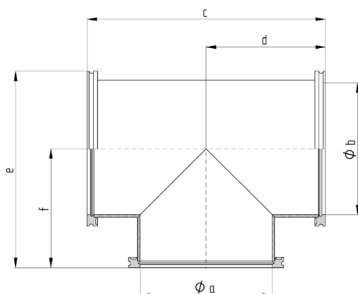
ISO-K t-piece made of stainless steel



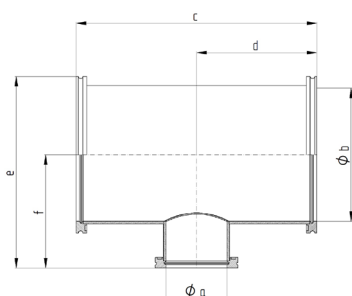
DN	63	100	160	200	250
Øa mm	70	102	153	213	261
Øb mm	70	102	153	213	261
c mm	176	216	276	356	416
d mm	88	108	138	178	208
e mm	135,5	173	228	298	353
f mm	88	108	138	178	208
Art. Nr.:	32650851	32650852	32651272	32651663	32651664

according to DIN ISO 2768-mK

- Other nominal diameters and combinations on request



ISO-K reducer t-piece made of stainless steel

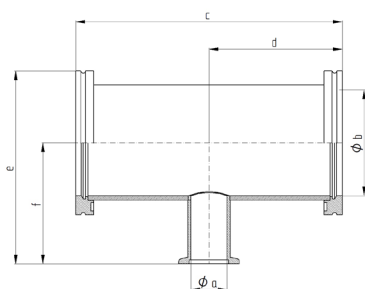


DN1	100	160	160
DN2	100	160	160
DN3	63	63	100
Øa mm	70	70	102
Øb mm	102	153	153
c mm	216	276	276
d mm	108	138	138
e mm	172	220	221
f mm	107	130	131
Art. Nr.:	32651667	32651276	32651668

according to DIN ISO 2768-mK

- Other nominal diameters and combinations on request

Reducer t-piece adapter ISO-K/KF made of stainless steel



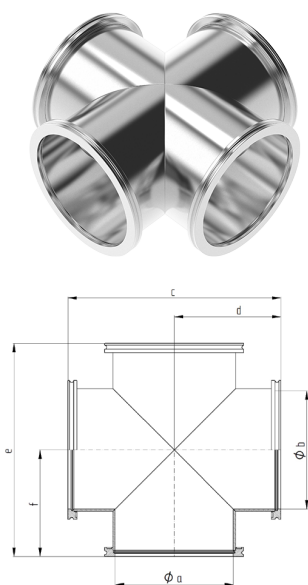
DN1	63	63	63	100	100	100
DN2	63	63	63	100	100	100
DN3	16	25	40	16	25	40
Øa mm	16	24	40,5	16	24	40,5
Øb mm	70	70	70	102	102	102
c mm	176	176	176	216	216	216
d mm	88	88	88	108	108	108
e mm	127,5	127,5	127,5	165	165	165
f mm	80	80	80	100	100	100
Art. Nr.:	32650825	32650828	32651665	32651666	32650831	32650835

according to DIN ISO 2768-mK

- Other nominal diameters and combinations on request

Cross-Pieces

Cross-Piece made of stainless steel



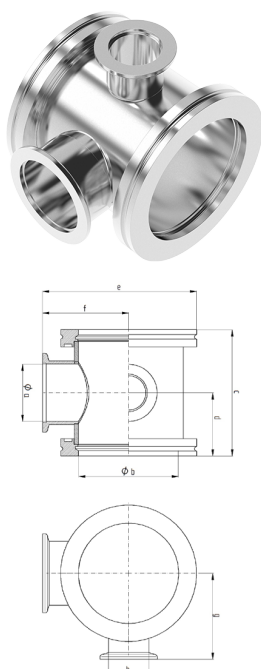
DN	63/63/100/100	63/63/160/160	100/100/160/160
Øa mm	70	70	102
Øb mm	102	153	276
c mm	216	276	276
d mm	108	138	138
e mm	214	260	262
f mm	107	130	131
Art. Nr.:	32751673	32751279	32751674

according to DIN ISO 2768-mK

- Other nominal diameters and combinations on request

Measuring Pieces

ISO-K instrument crosses 90° made of stainless steel

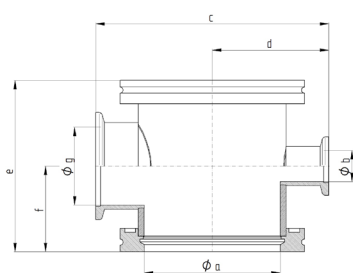


DN1 ISO-K	63	63	100	100	160	160
DN2 ISO-K	63	63	100	100	160	160
DN3 KF	40	40	40	40	40	40
DN4 KF	16	25	16	25	16	25
Øa mm	40,5	40,5	40,5	40,5	40,5	40,5
Øb mm	70	70	102	102	153	153
c mm	88	88	108	108	138	138
d mm	44	44	54	54	69	69
e mm	107,5	107,5	140	140	190	190
f mm	60	60	75	75	100	100
g mm	60	60	75	75	100	100
h mm	16	24	16	24	16	24
Art. Nr.:	32751634	32750881	32750838	32751688	32751689	32751690

according to DIN ISO 2768-mK

- Other nominal diameters and combinations on request
- With 2 outlets in ISO-KF (both KF connectors are the same length)

ISO-K instrument crosses 180° made of stainless steel



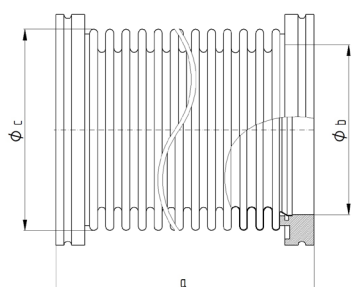
DN1 ISO-K	63	63	100	100	160	160
DN2 ISO-K	63	63	100	100	160	160
DN3 KF	40	40	40	40	40	40
DN4 KF	16	25	16	25	16	25
Øa mm	70	70	102	102	153	153
Øb mm	16	24	16	16	16	24
c mm	120	120	150	150	200	200
d mm	60	60	75	75	100	100
e mm	88	88	108	108	138	138
f mm	44	44	54	54	69	69
Øg mm	40,5	40,5	40,5	40,5	40,5	40,5
Art. Nr.:	32751162	32751675	32751676	32751677	32751678	32751679

according to DIN ISO 2768-mK

- Other nominal diameters and combinations on request

Flexible Connectors

Flexible Connector



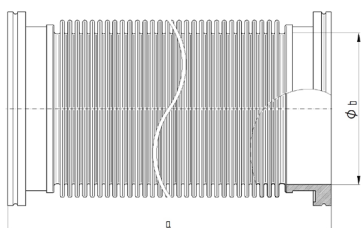
DN	63	100	160	160	200	250
a mm	127	127	140	220	220	220
Øb mm	70	102	153	153	240	261
Øc mm	83	122	173	173	250	300
Axial stroke mm	±8	±8	±10	±12,5	±12,5	±12,5
Art. Nr.:	33250642	33250649	33251691	33250213	33251692	33251693

according to DIN ISO 2768-mK

- Other nominal diameters and combinations on request
- Material: Stainless steel 1.4301; Balg 1.4541
- Temperature range: -196°C up to 300°C
- Pressure range: 1×10^{-8} hPa

Vacuum Hoses

Vacuum Hose made of stainless steel



DN	63	63	63	63	100	100
a mm	250	500	750	1000	250	500
Øb mm	70	70	70	70	102	102
Art. Nr.:	33351694	33351695	33351356	33351696	33351240	33351697

DN	100	100	160	160	160	160
a mm	750	1000	250	500	750	1000
Øb mm	102	102	153	153	153	153
Art. Nr.:	33351698	33351699	33351700	33351701	33351702	33351703

according to DIN ISO 2768-mK

- Annealed in a high vacuum, low restoring forces
- Pressure range: 1×10^{-8} hPa
- Temperature range: -196°C up to 300°C
- Special lengths on request
- Material: Flange: Stainless steel 1.4301, bellows 1.4404

CF-Flange

Fittings

Screw set for CF flange connection made of stainless steel

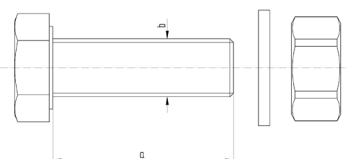


DN	16	35	63	100	150	200
a mm	20	35	50	55	60	60
Øb mm	M4	M6	M8	M8	M8	M8
Pack (pcs.)	6	6	8	16	20	24
Art.Nr.:	30651846	30651847	30651848	30651849	30651850	30651851

according to DIN ISO 2768-mK

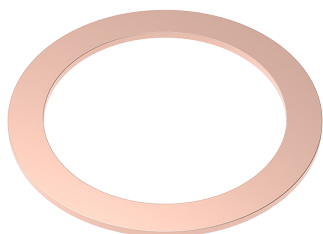
DN	250
a mm	60
Øb mm	M8
Pack (pcs.)	32
Art.Nr.:	30651852

- For mounting two CF flanges through hole
- 1 set consists of screw, nut and washer for a flange connection



Sealings

Copper sealing washer (OFHC-Cu)*

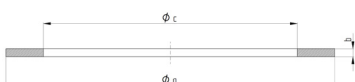


DN	16	35	63	100	150	200
Øa mm	21,3	48,1	82,3	120,5	171,1	222
b mm	2	2	2	2	2	2
Øc mm	16	36,9	72	101,7	152,5	203,2
Art.Nr.:	KT104030	KT104032	KT104034	KT104033	KT104035	KT104058

* Oxygen-Free-High-Conductivity according to DIN ISO 2768-mK

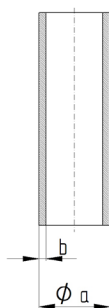
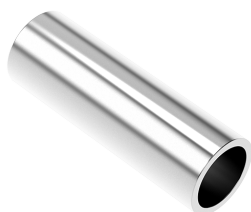
DN	250
a mm	272,9
Øb mm	254,2
Øc mm	2
Art.Nr.:	KT104057

- Single use
- Pressure range: 1×10^{-13} hPa
- Temperature range: -196°C up to 200°C



Stainless Steel Pipes

Stainless Steel Pipe made of material nr. 1.4301/1.4541



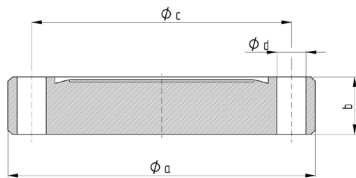
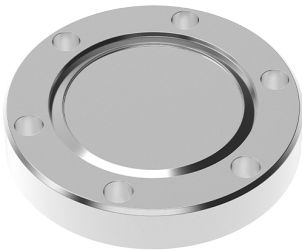
DN	16	35	40	63	100	150
Øa mm	18	38	42,4	70	104	154
b mm	1	1,5	2	2	2	2
Art.Nr.:	50651860	50651861	50651862	50651863	50651864	50651865

DN	200	250
a mm	206	256
Øb mm	3	3
Art.Nr.:	50651866	50651867

according to DIN ISO 2768-mK

Blind Flange

Blind Flange fixed, made of stainless steel (1.4301)



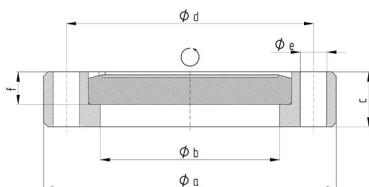
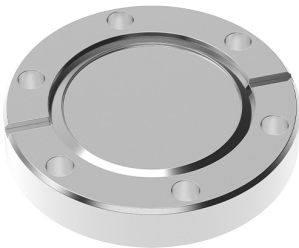
DN	16	35	63	100	150	200
a mm	34	69,5	113,5	152	202,5	253
b mm	7,3	13	17,5	20	22	24,5
Øc mm	27	58,7	92,2	130,3	181	231,8
Ød mm	6x4,3	6x6,6	8x8,5	16x8,5	20x8,5	24x8,5
Art.Nr.:	50750938	50750300	50750902	50750904	50750909	50751868

according to DIN ISO 2768-mK

DN	250
Øa mm	306
b mm	26
Øc mm	284
Ød mm	32x8,5
Art.Nr.:	50751869

- Pressure range: up to $1 \cdot 10^{-12}$ hPa
- Temperature range: -196°C up to 300°C

Blind Flange rotatable, made of stainless steel (1.4301)



DN	16	35	63	100	150	200
Øa mm	34	69,5	113,5	152	202,5	253
Øb mm	18,2	43	71	104,5	154,5	207
c mm	7,3	13	19	21,5	24	24,5
Ød mm	27	58,7	92,2	130,3	181	231,8
Øe	6x4,3	6x6,6	8x8,5	16x8,5	20x8,5	24x8,5
f	1,5	5,4	6,3	7,2	8,2	7,4
Art.Nr.:	31751871	31750928	31751872	31751873	31751874	31751875

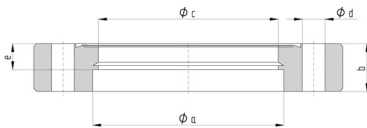
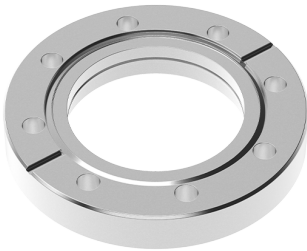
according to DIN ISO 2768-mK

DN	250
Øa mm	306
Øb mm	258
c mm	26
Ød mm	284
e mm	32x8,5
f mm	8
Art.Nr.:	31751876

- Pressure range: up to $1 \cdot 10^{-12}$ hPa
- Temperature range: -196°C up to 300°C

Flanges for Welding

Weld-on flange fixed, made of stainless steel (1.4301)



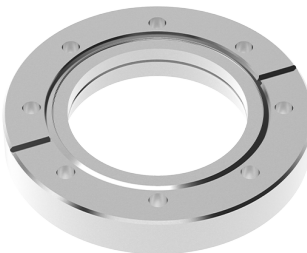
DN	16	35	40	63	100	150
Øa mm	18,2	38,2	42,4	71	104,5	154,5
b mm	7,3	13	13	17,5	20	22
Øc mm	16	35	38,4	66	100	151
Ød mm	6x4,3	6x6,6	6x6,6	8x8,5	16x8,5	20x8,5
e	4	5	5	9,5	10	10
Art.Nr.:	51150929	51150946	51150922	51150901	51151877	51150908

according to DIN ISO 2768-mK

DN	200	250
Øa mm	206,5	256,5
b mm	24,5	26
Øc mm	200	250
Ød mm	24x8,5	32x8,5
e	10	10
Art.Nr.:	51151878	51151879

- Pressure range: up to $1 \cdot 10^{-12}$ hPa
- Temperature range: -196°C up to 300°C

Weld-on flange fixed with thread, made of stainless steel (1.4301)



DN	16	35	40	63	100	150
Øa mm	18,2	38,2	42,4	71	104,5	154,5
b mm	7,3	13	13	17,5	20	22
Øc mm	16	35	38,4	66	100	151
Ød mm	6xM4	6xM6	6xM6	8xM8	16xM8	20xM8
e	4	5	5	9,5	10	10
Art.Nr.:	51150940	51151882	51151370	51151369	51151883	51151884

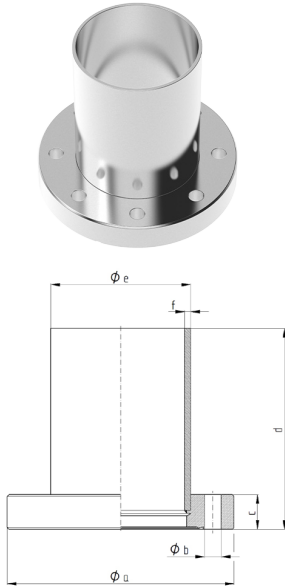
according to DIN ISO 2768-mK

DN	200	250
Øa mm	206,5	256,5
b mm	24,5	26
Øc mm	200	250
Ød mm	24xM8	32xM8
e	10	10
Art.Nr.:	51151885	51151886

- Pressure range: up to $1 \cdot 10^{-12}$ hPa
- Temperature range: -196°C up to 300°C

Weld-on flange with pipe socket, fixed

CF



DN	16	16	35	40	63	100
Øa mm	34	34	69,5	69,5	113,5	152
Øb mm	6x4,3	6x4,3	6x6,6	6x6,6	8x8,5	16x8,5
c mm	7,3	7,3	13	13	17,5	20
d mm	20	38	63	63	105	135
Øe mm	18	18	38	42,4	70	104
f mm	1	1	1,5	1,5	2	2
Art.Nr.:	33250930	32250931	32251887	32251888	32251706	32251889

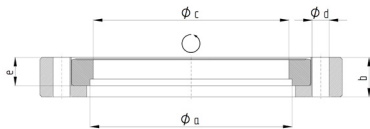
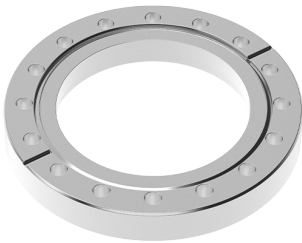
according to DIN ISO 2768-mK

DN	150	200	250
a mm	202,5	253	306
Øb mm	20x8,5	24x8,5	32x8,5
c mm	22	24,5	26
d mm	167	210	250
Øe mm	154	206	256
f mm	2	3	3
Art.Nr.:	32251890	32251891	32251892

- Weld surface: polished
- Other pipe dimensions and threads on request
- Tightness: $\leq 1 \cdot 10^{-11}$ Pa m³/s
- Pressure range: $1 \cdot 10^{-12}$ hPa
- Material: 1.4301
- Temperature range: -196°C up to 300°C

Weld-on flange rotatable

CF



DN	16	35	40	63	100	150
Øa mm	18	38	42,4	70	104	154
b mm	7,3	13	13	19	21,5	24
Øc mm	16	35	38,2	66	100	150
Ød mm	6x4,3	6x6,6	6x6,6	8x8,5	16x8,5	20x8,5
e mm	4,7	5,3	5,3	9,5	11	12,7
für Rohr	18x1	38x1,5	42,4x2	70x2	104x2	154x2
Art.Nr.:	32151893	32151894	32150913	32150898	32150907	32151895

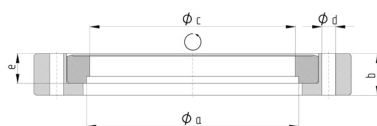
according to DIN ISO 2768-mK

DN	200	250
Øa mm	206	256
b mm	24,5	26
Øc mm	200	250
Ød mm	24x8,5	32x8,5
e mm	12,7	12,7
für Rohr	206x3	256x3
Art.Nr.:	32151896	32151897

- Pressure range: $1 \cdot 10^{-12}$ hPa
- Material: 1.4301
- Temperature range: -196°C up to 300°C

Weld-on flange rotatable with thread

CF



DN	16	35	40	63	100	150
Øa mm	18	38	42,4	70	104	154
b mm	7,3	13	13	19	21,5	24
Øc mm	16	35	38,4	66	100	150
Ød mm	6xM4	6xM6	6xM6	8xM8	16xM8	20xM8
e mm	4,7	5,3	5,3	9,5	11	12,7
for pipe	18x1	38x1,5	42,4x2	70x2	104x2	154x2
Art.Nr.:	32151898	32151899	32151900	32151901	32151709	32151902

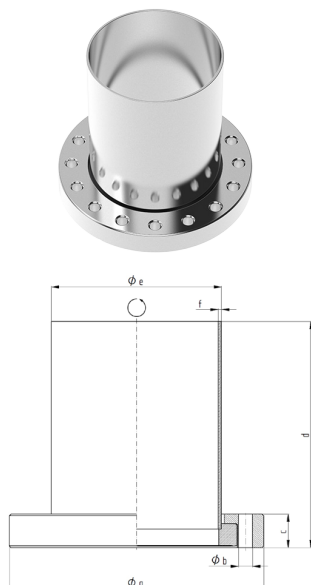
according to DIN ISO 2768-mK

DN	200	250
Øa mm	206	256
b mm	24,5	26
Øc mm	200	250
Ød mm	24xM8	32xM8
e mm	12,7	12,7
for pipe	206x3	256x3
Art.Nr.:	32151903	32151904

- Pressure range: $1 \cdot 10^{-12}$ hPa
- Material: 1.4301
- Temperature range: -196°C up to 300°C

Weld-on flange with pipe attachment rotatable

CF



DN	16	16	35	40	63	100
Øa mm	34	34	69,5	69,5	113,5	152
Øb mm	6x4,3	6x4,3	6x6,6	6x6,6	8x8,5	16x8,5
c mm	7,3	7,3	13	13	17,5	20
d mm	20	38	63	63	105	135
Øe mm	18	18	38	42,4	70	104
f mm	1	1	1,5	1,5	2	2
Art.Nr.:	32251905	32250945	32251906	32251907	32251908	32251710

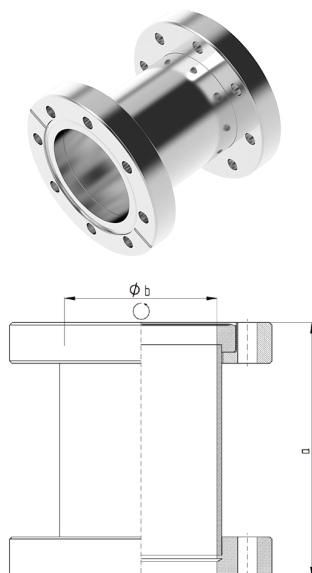
according to DIN ISO 2768-mK

DN	150	200	250
a mm	202,5	253	306
Øb mm	20x8,5	24x8,5	32x8,5
c mm	22	24,5	26
d mm	167	210	250
Øe mm	154	206	256
f mm	2	3	3
Art.Nr.:	32251909	32251910	32251911

- Welding surface: polished
- Other pipe dimensions on request
- Pressure range: $1 \cdot 10^{-12}$ hPa
- Material: 1.4301
- Temperature range: -196°C up to 300°C
- Other pipe dimensions and threads on request

Piping Components

CF spacer



DN	16	40	63	100	150	200
a mm	76	126	210	270	334	420
Øb mm	16	38,4	66	100	150	200
Art.Nr.:	32351912	32351913	32351711	32351914	32351915	32351916

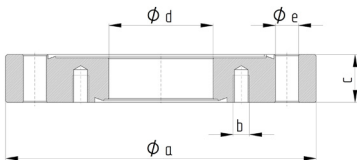
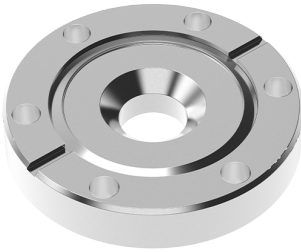
DN	250
a mm	500
Øb mm	250
Art.Nr.:	32351917

according to DIN ISO 2768-mK

- With one side rotating flange and one side fixed flange
- Flange with through hole, connection with [screw set for CF flange connection](#)
- Other lengths and pipe dimensions on request
- Tightness: $\leq 1 \cdot 10^{-11}$ Pa m³/s
- Pressure range: $1 \cdot 10^{-12}$ hPa
- Material: 1.4301
- Temperature range: -196°C up to 300°C

Reducing flange CF-CF

CF



DN	35/16	63/16	63/35	100/35	100/63	150/35
Øa mm	69,5	113,5	113,5	152	152	202,5
b mm	6xM4	6xM4	6xM6	6xM6	8xM8	6xM6
c mm	13	17,5	17,5	20	20	22
Ød mm	16	16	38,1	38,1	63,5	38,1
Øe mm	6x6,6	8x8,5	8x8,5	16x8,5	16x8,5	20x8,5
Art.Nr.:	51651716	51651918	51651919	51651920	51651921	51651922

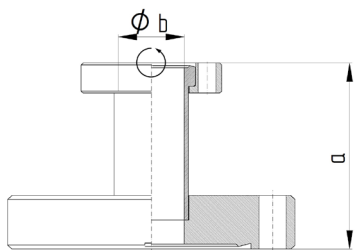
according to DIN ISO 2768-mK

DN	150/63	150/100
Øa mm	202,5	202,5
b mm	8xM8	16xM8
c mm	22	22
Ød mm	63,5	101,6
Øe mm	20x8,5	20x8,5
Art.Nr.:	51651923	51651924

- The small flange side has threaded blind holes. Please ensure the correct screw length during installation.
- Pressure range: 1*10⁻¹² hPa • Temperature range: -196°C to 300°C
- Other dimensions and designs available upon request (also off-center)

Reducing flange CF-CF

CF



DN	35/16	63/16	63/35	100/16	100/35	100/63
a mm	45	60	75	95	75	95
Øb mm	16	16	36	16	36	60
Art.Nr.:	32351718	32351925	32351926	32351927	32351928	32351929

DN	150/16	150/35	150/63	150/100	200/16	200/35
a mm	110	75	100	105	120	80
Øb mm	16	36	60	97,6	16	36
Art.Nr.:	32351930	32351931	32351932	32351933	32351934	32351935

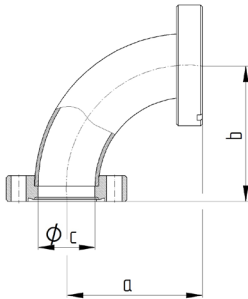
DN	200/63	200/100	200/150
a mm	100	105	110
Øb mm	60	97,6	146,4
Art.Nr.:	32351936	32351937	32351938

according to DIN ISO 2768-mK

- Reduced flange side, rotatable • Weld surface: polished
- Other lengths and pipe dimensions available upon request
- Tightness: ≤1*10⁻¹¹ Pa m³/s • Pressure range: 1*10⁻¹² hPa
- Material: 1.4301 • Temperature range: -196°C to 300°C

Elbows

Elbow 90°



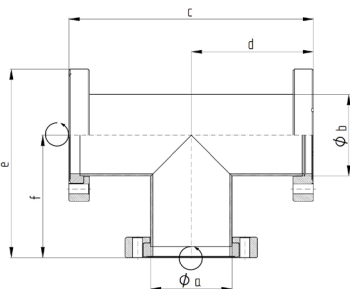
DN	16	35	63	100	150	200
a mm	38,1	62,7	104,8	134,9	166,7	203,2
b mm	38,1	62,7	104,8	134,9	166,7	203,2
Øc mm	17,05	34,8	59,5	97,6	148,4	199
Art.Nr.:	32551725	32551939	32551940	32551941	32551942	32551943

according to DIN ISO 2768-mK

- With one side of a rotating flange and one side of a fixed flange
- Weld surface: polished
- Tightness: $\leq 1 \cdot 10^{-11}$ Pa m³/s
- Pressure range: $1 \cdot 10^{-12}$ hPa
- Material: 1.4301
- Temperature range: -196°C to 300°C

T-Pieces

T-Piece



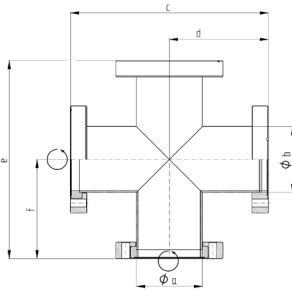
DN	16	35	63	100	150	200
Øa mm	19,05	38,1	63,5	101,6	154	204
Øb mm	19,05	38,1	63,5	101,6	154	204
c mm	76,2	125,4	209,6	269,8	333,4	406,4
d mm	38,1	62,7	104,8	134,9	166,7	203,2
e mm	55,1	97,5	161,5	210,9	268	329,7
f mm	38,1	62,7	104,8	134,9	166,7	203,2
Art.Nr.:	32651944	32651945	32651727	32651946	32651947	32651948

according to DIN ISO 2768-mK

- With two rotating flanges (one rotating flange per axis) and one fixed flange on one side.
- Material: 1.4301
- Pressure range: $1 \cdot 10^{-12}$ hPa
- Weld surface: polished
- Tightness: $\leq 1 \cdot 10^{-11}$ Pa m³/s
- Temperature range: -196°C up to 300°C

Cross Pieces

Cross Piece quadruple

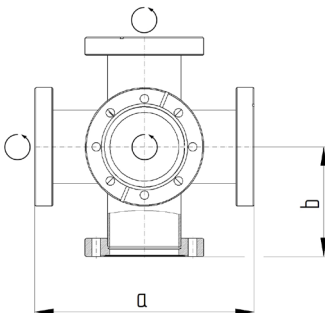


DN	16	35	63	100	150	200
Øa mm	19,05	38,1	63,5	101,6	154	204
Øb mm	19,05	38,1	63,5	101,6	154	204
c mm	76,2	125,4	209,6	269,8	333,4	406,4
d mm	38,1	62,7	104,8	134,9	166,7	203,2
e mm	76,2	125,4	209,6	269,8	333,4	406,4
f mm	38,1	62,7	104,8	134,9	166,7	203,2
Art.Nr.:	32751949	32751950	32751729	32751951	32751952	32751953

according to DIN ISO 2768-mK

- With two rotating flanges (one rotating flange per axis) and two fixed flanges
- Weld surface: polished
- Tightness: $\leq 1 \cdot 10^{-11}$ Pa m³/s
- Pressure range: $1 \cdot 10^{-12}$ hPa
- Material: 1.4301
- Temperature range: -196°C up to 300°C

Cross Piece sixfold



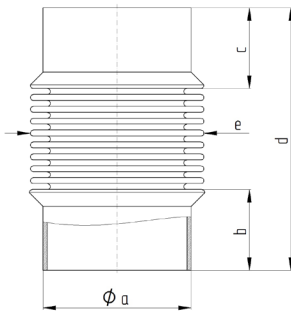
DN	16	35	63	100	150	200
a mm	76,2	125,4	209,6	269,8	333,4	406,4
b mm	38,1	62,7	104,8	134,9	166,7	203,2
Art.Nr.:	32851954	32851955	32851740	32851956	32851957	32851958

according to DIN ISO 2768-mK

- With three rotating flanges (one rotating flange per axis) and three fixed flanges
- Weld surface: polished
- Tightness: $\leq 1 \cdot 10^{-11}$ Pa m³/s
- Pressure range: $1 \cdot 10^{-12}$ hPa
- Material: 1.4301
- Temperature range: -196°C up to 300°C

Flexible Connectors

Flexible Connector with welded pipe ends

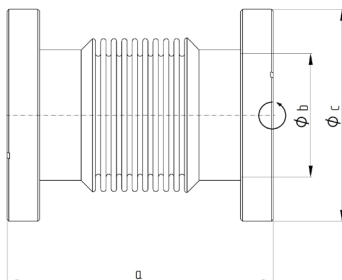


DN	16	35	63	100
Øa mm	18,2	38	70	104
b mm	15	28	38	57
c mm	15	28	38	57
d mm	72	116	127	194
e mm	27,5	50	82	133
Hub mm	± 8	± 10	± 8	± 13
Art.Nr.:	53651981	53651982	53651747	53651983
DN	150	200	250	
Øa mm	154	206	256	
b mm	67	70	75	
c mm	67	70	75	
d mm	214	265	260	
e mm	190	250	300	
Hub mm	± 11	± 15	± 15	
Art.Nr.:	53651984	53651985	53651986	

according to DIN ISO 2768-mK

- Other lengths on request
- Pressure range: $1 \cdot 10^{-10}$ hPa
- Temperature range: -196°C up to 300°C
- Material: Stainless steel 1.4571

Flexible Connector with 1 rotary flange and 1 fixed flange



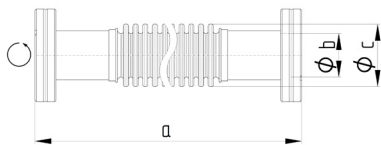
DN	16	35	63	100
a mm	100	130	150	150
Øb mm	16	35	63	100
Øc mm	34	69,5	113,5	152
Hub mm	10	10	20	20
Art.Nr.:	33251959	33251960	33251753	33251961
DN	150	200	250	
a mm	180	250	250	
Øb mm	150	200	250	
Øc mm	202,5	253	306	
Hub mm	30	20	-	
Art.Nr.:	33251962	33251963	33251964	

according to DIN ISO 2768-mK

- Other lengths on request
- Flange with through hole
- Pressure range: $1 \cdot 10^{-10}$ hPa
- Temperature range: -196°C up to 300°C
- Material: Flange: Stainless steel 1.4301, bellows 1.4571

Vacuum Hoses

Vacuum Hose annealed in high vacuum



DN	16	16	16	35	35	35
a mm	250	500	1000	250	500	1000
Øb mm	16	16	16	38	38	38
Øc mm	22	22	22	50	50	50
Art.Nr.:	33351756	33351965	33351966	33351967	33351968	33351791

DN	63	63	63	100	100	100
a mm	250	500	1000	250	500	1000
Øb mm	63	63	63	100	100	100
Øc mm	78	78	78	117	117	117
Art.Nr.:	33351969	33351970	33351971	33351972	33351973	33351974

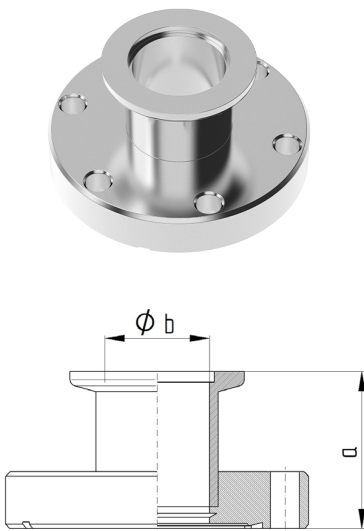
according to DIN ISO 2768-mK

- With one side rotating flange and one side fixed flange
- Flange with through hole
- Other lengths on request
- Pressure range: $1 \cdot 10^{-9}$ hPa
- Temperature range: -196°C up to 300°C
- Material: Stainless steel 1.4301

Special Connections

Transition Pieces

Transition Piece CF-KF

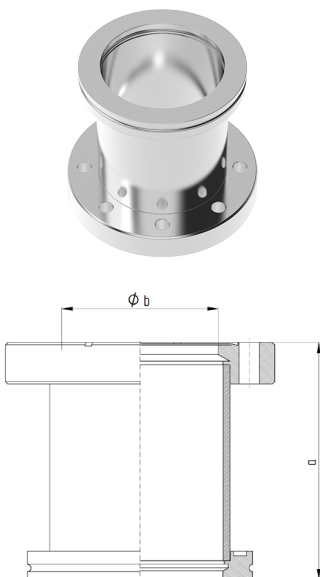


DN CF	16	35	35	35	63	63
DN KF	16	16	25	40	40	50
a mm	40	40	40	60	60	60
Øb mm	16	16	24	40,5	40,5	51
Art.Nr.:	33051975	33051976	33050964	33050697	33051977	33051978
DN CF	100	100				
DN KF	25	40				
a mm	60	60				
Øb mm	24	40,5				
Art.Nr.:	33051979	33051980				

according to DIN ISO 2768-mK

- Other combinations on request
- Pressure range: $1 \cdot 10^{-8}$ mit [O-Ring](#), $1 \cdot 10^{-9}$ mit Metaldichtung
- Temperature range: -196°C up to 300°C
- Material: Stainless steel 1.4301

Transition Piece CF-ISO-K



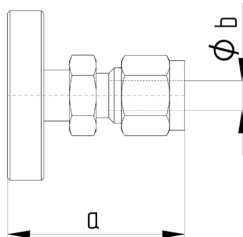
DN CF	63	100	150
DN ISO-K	63	100	160
a mm	100	100	100
Øb mm	70	102	153
Art.Nr.:	33051735	33051987	33051988

according to DIN ISO

- Other combinations on request
- Pressure range: $1 \cdot 10^{-8}$ with [o-ring](#), $1 \cdot 10^{-9}$ mit metal sealing
- Temperature range: -196°C up to 300°C
- Material: Stainless steel 1.4301

Flange Fasteners with SWAGELOK®, VCR & Ultra-Torr Screw Connections

Flange with SWAGELOK tube fitting for metric pipes



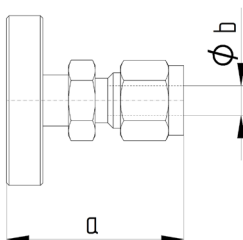
DN	16	16	16	35	35
for pipe [mm]:	4	6	8	4	6
a mm	35	36	42	41	42,5
Øb mm	4	6	8	4	6
Swagelok® connection:	SS-4M0-1-2W	SS-6M0-1-2W	SS-8M0-1-4W	SS-4M0-1-2W	SS-6M0-1-2W
Art. Nr.:	33551989	33551755	33551990	33551991	33551992

according to DIN ISO 2768-mK

DN	35	35	35
für Rohr[mm]:	8	10	12
a mm	48	50,5	53
Øb mm	8	10	12
Swagelok® connection:	SS-8M0-1-4W	SS-10M0-1-6W	SS-12M0-1-6W
Art. Nr.:	33551993	33551994	33551995

- Other combinations on request
- Pressure range: $1 \cdot 10^{-9}$ hPa
- Material Flange: 1.4301
- Temperature range: -196°C up to 300°C

Flange with SWAGELOK tube fitting for inch pipes



DN	16	16	16	35	35
a mm	34	41	43	40	47
Øb Zoll	1/8	1/4	3/8	1/8	1/4
Swagelok® connection:	SS-200-1-2W	SS-400-1-4W	SS-600-1-6W	SS-200-1-2W	SS-400-1-4W
Art. Nr.:	33551996	33551997	33551998	33551999	33552000

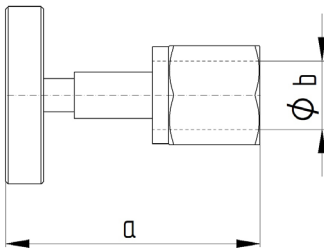
according to DIN ISO 2768-mK

DN	35	35	35
a mm	50	58,5	71,5
Øb Zoll	3/8	1/2	1
Swagelok® connection:	SS-600-1-6W	SS-810-1-8W	SS-1610-1-16W
Art. Nr.:	33552001	33552002	33552003

- Other combinations on request
- Pressure range: $1 \cdot 10^{-9}$ hPa
- Material flange: 1.4301
- Temperature range: -196°C up to 300°C

Flange welded with VCR nozzle including union nut

CF



DN	16	16	16	35	35
a mm	30	50	56,5	36	56
Øb Zoll	1/8	1/4	1/2	1/8	1/4
VCR® nozzle:	SS-2-VCR-3-2MTW	SS-4-VCR-3-4MTW	SS-8-VCR-3-8MTW	SS-2-VCR-3-2MTW	SS-4-VCR-3-4MTW
VCR® Union nut	SS-2-VCR-1	SS-4-VCR-1	SS-8-VCR-1	SS-2-VCR-1	SS-4-VCR-1
Art. Nr.:	33652004	33651759	33652005	33652006	33652007

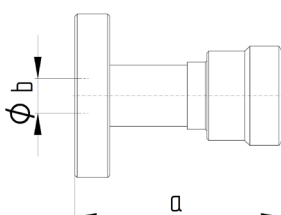
DN	35	35
a mm	62	70
Øb Zoll	1/2	1
VCR® nozzle:	SS-8-VCR-3-8MTW	SS-16-VCR-3-16MTW
VCR® Union nut	SS-8-VCR-1	SS-16-VCR-1
Art. Nr.:	33652008	33652009

according to DIN ISO 2768-mK

- Other combinations and VCR adapters on request
- Tightness: $\leq 1 \cdot 10^{-11}$ Pa m³/s
- Pressure range: $1 \cdot 10^{-11}$ hPa
- Material: Flange: 1.4301; Adapter: 1.4404
- Temperature range: -196°C up to 300°C

Flange welded with Ultra-TorrFitting®

CF



DN	16	16	35	35	35	35
for pipe [Zoll]:	1/4	3/8	1/4	3/8	1/2	1
for pipe [mm]:	6	9	6	9	12	25
a mm	43	43	49	49	51	54
Øb mm	7,1	7,1	7,1	7,1	10,4	22,4
UT® nozzle:	SS-4-UT-A-6	SS-6-UT-A-8	SS-4-UT-A-6	SS-6-UT-A-8	SS-8-UT-A-12	SS-16-UT-A-20
Art. Nr.:	33752010	33751762	33752011	33752012	33752013	33752014

according to DIN ISO 2768-mK

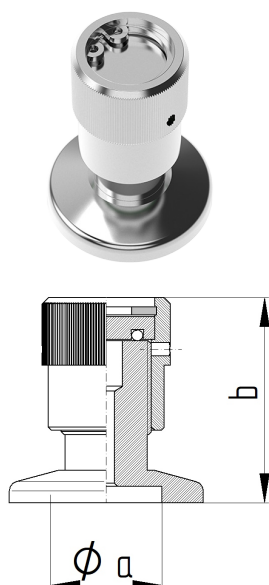
- Other combinations and VCR adapters on request
- Tightness: $\leq 1 \cdot 10^{-11}$ Pa m³/s
- Pressure range: $1 \cdot 10^{-11}$ hPa
- Material: Flange: 1.4301; Adapter: 1.4404
- Temperature range: -196°C up to 300°C

Valves

Ventilation Valves

Ventilation Valve with small flange

CF



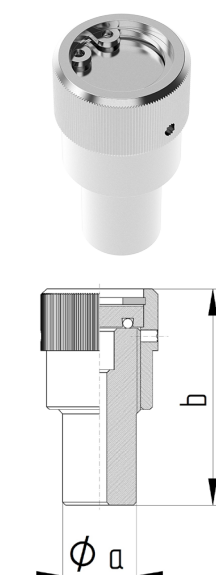
DN	16	25
Øa mm	17,2	26,2
b mm	32	32
Art. Nr.:	34050130	34051195

according to DIN ISO 2768-mK

- The manually operated stainless steel vent valves are suitable for venting small containers.
- FKM seal
- Stainless steel 1.4305
- Temperature range: -25°C up to 130°C

Ventilation Valve with welding nozzle

CF



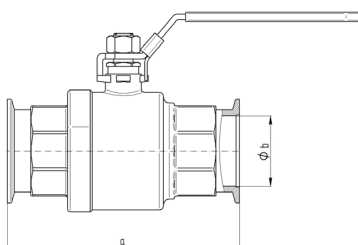
DN	16
Øa mm	17,2
b mm	32
Art. Nr.:	34050130

according to DIN ISO 2768-mK

- The manually operated stainless steel vent valves are suitable for venting small containers.
- FKM seal
- Stainless steel 1.4305
- Temperature range: -25°C up to 130°C

Ball Valves

Ball valve manually operated, nickel-plated brass

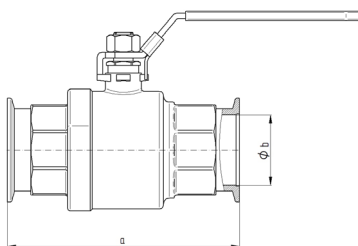


DN	10	16	25	40	50
a mm	85	85	106	130	146
Øb mm	10	16	24	40	51
Art. Nr.:	34152015	34151154	34152016	34150867	34151360

according to DIN ISO 2768-mK

- Nickel-plated brass ball valve
- Ball material: Chrome-plated brass
- Seal: PTFE
- Temperature range media: -20°C up to +80°C
- Full passage

Ball valve manually operated, stainless steel



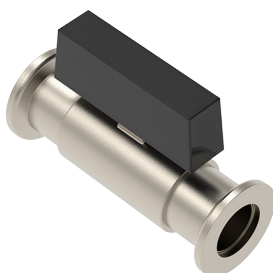
KF-DN	10	16	25	40	50
a mm	88	96	123	146	168
Øb mm	10	16	24	40	51
Art.Nr.:	34150866	34150469	34150470	34150471	34150472

according to DIN ISO 2768-mK

- Stainless steel ball valve: 1.4408
- Seal: PTFE
- Open port
- Temperature range media: -20°C up to +80°C

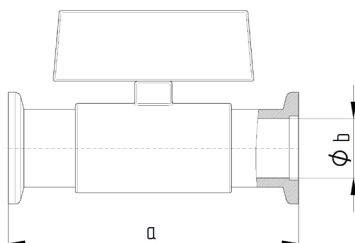
Plate Taps

Plate tap manually operated, nickel-plated brass



KF-DN	10	16	25
a mm	75	78	91
Øb mm	10	12	24
Art.Nr.:	34252017	34251153	34252018

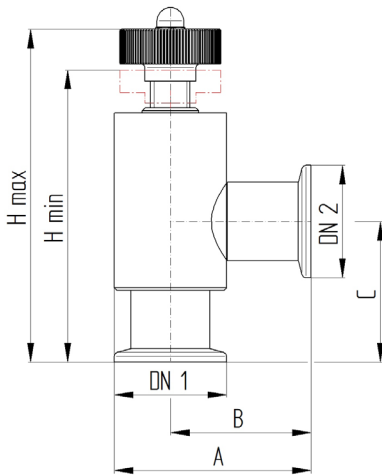
according to DIN ISO 2768-mK



Angle Valve



Angle valve made of stainless steel, manually operated



KF-DN	16	25	40	50
a mm	60	70	97,5	103
b mm	40	50	65	65
c mm	40	50	65	65
DN 1	16	25	40	50
DN 2	16	25	40	50
hmin mm	102±2	108±1	136±2	136±2
hmax mm	118±2	126±2	163±2	163±2
Conductance l/s	5	14	49	91
Art.Nr.:	35050600	35050332	35050639	35052020

according to DIN ISO 2768-mK

ISO-K DN	63	100	160
a mm	142	189	247,5
b mm	88	109	138
c mm	88	106	138
ISO-K DN 1	63	100	160
ISO-K DN 2	63	100	160
hmin mm	200±2	255±2	310±2
hmax mm	230±2	310±2	375±2
Conductance l/s	184	446	1130
Art.Nr.:	35052021	35052022	35052023

according to DIN ISO 2768-mK

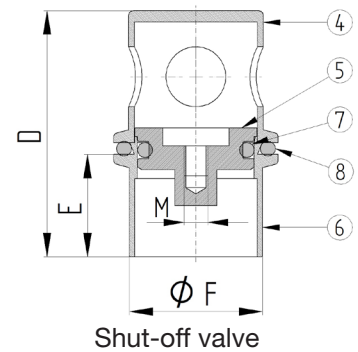
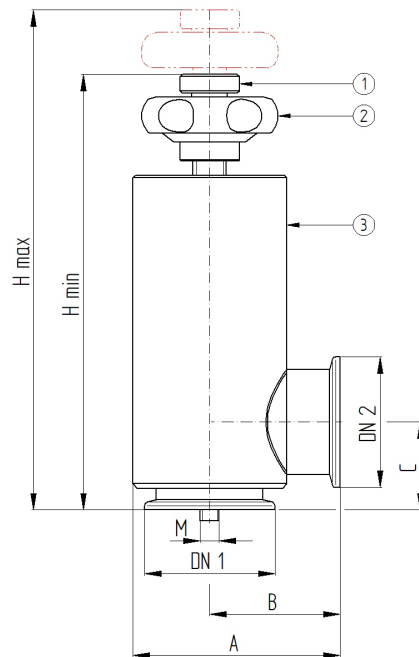
Advantages:

- Any installation position • FKM seals
- Small dimensions • Large valve lift
- Easy disassembly
- Long service life -> 100,000 actuations
- Made entirely of stainless steel
- Very robust and reliable
- Valve position immediately recognizable
- Replaceable inner part
- Corner dimensions like flange components
- Suitable as a throttle valve
- Functionally tested and leak-tested
- Usable up to $\leq 10^{-8}$ mbar
- Body tightness $< 10^{-9}$ mbar $\cdot 1 \cdot s^{-1}$
- Seat tightness $< 10^{-9}$ mbar $\cdot 1 \cdot s^{-1}$
- Heatability up to 150°C
- Very low gas release
- Long service life
- Opening possible at differential pressures of >2 bar

Vacuum pump accessories

Gas Locks

Gas lock with shut-off valve for welding, stainless steel



- 1 Locking spindle
- 2 Valve spindle
- 3 Gas lock
- 4 Safety cap
- 5 Sealing plug
- 6 Weld-on socket
- 7 O-Ring (FKM)
- 8 O-Ring (Perbuan)

Usability

Vessels that rarely require re-evacuation, vacuum-insulated containers for liquefied gas, and lines that are to be filled with pure gases. The latter must be evacuated beforehand to allow the filling gas to enter while excluding atmospheric air.

In many cases it is necessary to not only close containers under vacuum or filled with gas, but also to evacuate them. Any good high vacuum valve would of course be suitable for this purpose. However, this valve must remain on the evacuated or gas-filled container after it has been disconnected from the pump or filling gas line and must also be secured against accidental opening. The closure valve is similar to a small flange with a pipe socket, in which the closure piece (the actual closure valve) hermetically seals the container or line as a vacuum valve and overpressure protection. To operate the closure valve, a gas lock is required, which is separated from the small flange once the pumping process or gas filling has been completed.

Gas lock:

DN	KF 25	KF 25	KF 40	KF 40	KF 50	KF 50	ISO-K 63	ISO-K 100
Gewinde:	M8LH	M5LH	M8LH	M5LH	M8LH	M5LH	M8LH	M8LH
a mm	74	74	87,5	87,5	115	115	154	154
b mm	50	50	55	55	75	75	96	96
c mm	30	30	37	37	50	50	60	60
DN 1	KF 25	KF 25	KF 40	KF 40	KF 50	KF 50	ISO-K 63	ISO-K 100
DN 2	KF 25	KF 25	KF 40	KF 40	KF 50	KF 50	ISO-K 63	ISO-K 100
hmin mm	160	160	190	190	190	190	220	270
hmax mm	210	210	240	240	240	240	270	220
Art.Nr.:	36050555	36050914	36050370	36050975	36051792	36050624	36052028	36052029

Shut-off valve complete with safety cap and clamping ring

DN	KF 25	KF 25	KF 40	KF 40	KF 50	KF 50	ISO-K 63	ISO-K 100
Gewinde:	M8LH	M5LH	M8LH	M5LH	M5LH	M8LH	M8LH	M8LH
d mm	73	73	82	82	110	110	116	116
e mm	34	34	34	34	62	62	100	100
Øf mm	28	28	44,5	44,5	60	60	78	108
Art.Nr.:	36551778	36550561	36551757	36551398	36550257	36552030	36552031	36552032

Replacement insert:

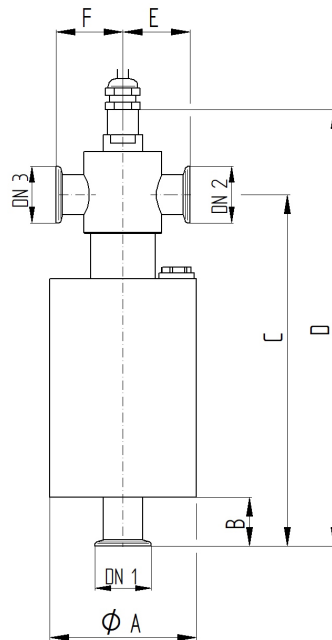
DN	KF 25	KF 25	KF 40	KF 50	KF 50	ISO-K 63	ISO-K 100
Gewinde:	M8LH	M5LH	M8LH	M5LH	M8LH	M8LH	M8LH
Art.Nr.:	36150605	36150868	36150604	36150603	36150604	36152047	36152048

Replacement O-rings (complete set):

DN	KF 25	KF 40/50	ISO-K 63	ISO-K 100
Art.Nr.:	36252054	36252055	36252056	36252057

Adsorption traps

Adsorption traps (zeolite traps) stainless steel



Usability

The achievable ultimate pressure of oil-sealed vacuum pumps is strongly influenced by the backflow of water vapor and hydrocarbons from the pump oil. Two-stage rotary vane pumps are no exception, although the quantity of molecules is lower.

The generation of oil-free high and ultra-high vacuums, e.g., with turbomolecular pumps, requires that the backing side is already "clean." To achieve this condition, adsorption traps filled with zeolite are installed in the intake line of two-stage backing pumps. The saturated zeolite filling can be easily regenerated repeatedly by annealing at approximately 300°C to achieve total pressures of 10⁻⁵ mbar with two-stage rotary vane pumps.

Zeolite trap with heating, filled with zeolite

DN	KF 25	KF 40
Øa mm	104	104
b mm	35	35
c mm	250	250
d mm	310	310
e mm	47,5	50
f mm	47,5	45
DN 1	KF 25	KF 40
DN 2	KF 25	KF 40
DN 3	KF 25	KF 25
Art.Nr.:	37050666	37052033

Heating element connection part

Art.Nr.:	37150670
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Zeolite 1 Kg

Art.Nr.:	KT104048
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Fine vacuum adsorption trap (zeolite trap)

Zeolite traps are installed between the backing pumps and the main pumps, or in oil-sealed vacuum pumps, between the pump and the vacuum chamber. They protect the vacuum system from backflowing hydrocarbons, water vapor, etc. from the oil of oil-sealed vacuum pumps, as well as the pumps themselves from process-related contamination, thus significantly reducing maintenance requirements.

The saturated zeolite filling can be baked out and regenerated at approximately 300°C using the built-in heating element.

Typical installation:

- DN 1 connection: connect to the vacuum pump.
- DN 2 connection: connect to the main pump or chamber.
- DN 3 connection: intended for the measuring connection; otherwise, close with a blind flange.

The zeolite trap should be installed as vertically as possible.

Before commissioning:

- Unscrew the filler screw (see drawing).
- Fill the zeolite, packaged in a moisture-proof container, completely into the zeolite trap; shake the trap slightly to ensure the zeolite is evenly distributed inside.
- Screw in the filler screw and tighten with a wrench.

During operation:

- Adsorption occurs automatically. No additional actions are required while the pump is running.
- The heating element must not be heated!

After operation:

- If the zeolite's absorption capacity is not yet exhausted or is still large enough for another process run, regeneration is not necessary.
- If regeneration is required, proceed as follows:

1. Regeneration while installed:

- Close/block the connection to the main pump or vacuum chamber, e.g., with a valve.
- Turn on the backing pump and plug the zeolite trap's heating cartridge into a 230 VAC outlet.



**CAUTION: When heating the zeolite,
the exterior of the housing becomes hot!
RISK OF BURNS!**



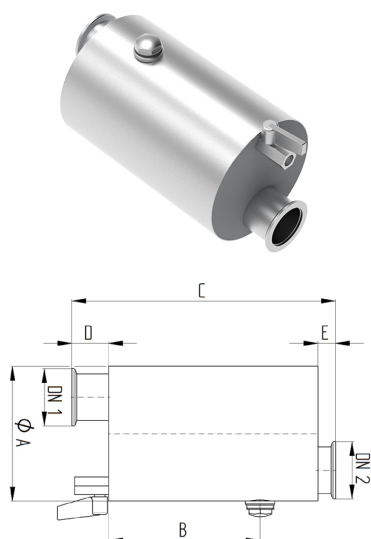
Keep flammable materials away!

- Bake-out time: 30 minutes to 4 hours, depending on the saturation level and the medium.
- Turn off the pump and heating element, and allow the zeolite trap to cool.

Condensate Separator

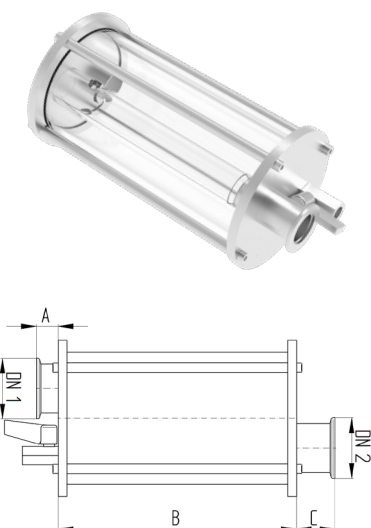
- Effective protection of the connected receivers against backflow of the backing pump oil, for pumps without oil backflow protection.
- When mounted on the pressure side; protects the pump oil from backflowing condensate.
- Corrosion-resistant thanks to stainless steel 1.4301.
- With vacuum-tight drain cock.

Condensate separator stainless steel with oil sight glass



DN	KF 25	KF 40
Øa mm	104	129
b mm	145	145
c mm	252	252
d mm	35	35
e mm	17	17
DN 1	KF 25	KF 40
DN 2	KF 25	KF 40
Art.Nr.:	37550788	37550796

Condensate separator made of Acryl / Stainless steel



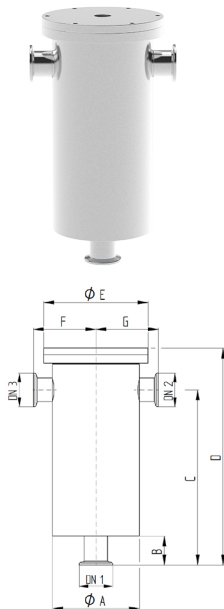
DN	KF 25	KF 40
a mm	20	20
b mm	216	216
c mm	35	35
DN 1	KF 25	KF 40
DN 2	KF 25	KF 40
Art.Nr.:	37550113	37550685

Cold Traps

LN2 - Cold traps stainless steel

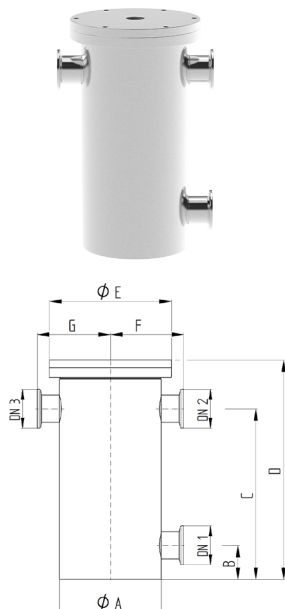


- A liquid nitrogen cold trap in the cooling chamber prevents the backflow of harmful operating fluid vapors through condensation.
- Increases the service life of the pump and operating fluids by protecting them from harmful process vapors.
- Available in various designs.
- Special cold traps in any size and design, including for diffusion pumps, are available upon request.



Version A

DN	KF 25/25	KF 25/25/25	KF 40/40	KF 40/40/40	KF 50/50/40	ISO-K 63/63/40
Øa mm	104	104	104	104	129	129
b mm	35	35	35	35	35	35
c mm	210	210	210	210	185	265
d mm	260	260	260	260	265	320
Øe mm	125	125	125	125	150	150
f mm	75	75	75	75	90	98
g mm	-	75	-	75	90	98
DN 1	KF 25	KF 25	KF 40	KF 40	KF 50	ISO-K 63
DN 2	KF 25	KF 25	KF 40	KF 40	KF 50	ISO-K 63
DN 3	-	KF 25	-	KF 40	KF 40	KF 40
Art.Nr.:	38052034	38050142	38052035	38050156	38052036	38052037



Version B

DN	KF 25/25	KF 25/25/25	KF 40/40	KF 40/40/40	KF 50/50/40	ISO-K 63/63/40
Øa mm	104	104	104	104	129	129
b mm	35	35	35	35	45	65
c mm	175	175	175	175	170	230
d mm	225	225	225	225	230	295
Øe mm	125	125	125	125	150	150
f mm	75	75	75	75	90	98
g mm	-	75	-	75	90	98
DN 1	KF 25	KF 25	KF 40	KF 40	KF 50	ISO - K 63
DN 2	KF 25	KF 25	KF 40	KF 40	KF 50	ISO - K 63
DN 3	-	KF 25	-	KF 40	KF 40	KF 40
Art.Nr.:	38052049	38052026	38052050	38052051	38052052	38052053



Drive Technology
Clamping Technology
VACUUM TECHNOLOGY



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