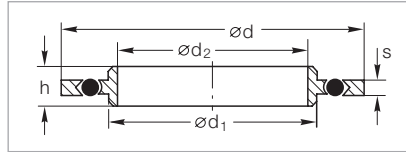


Centering Rings (Aluminium AW-6082-T6 / Stainless Steel 1.4301) with O-Ring (CR/FPM (FKM))



Dimensional drawing for the centering rings with O-ring

Technical Data

DN	ISO-K	63	100	160	200	250
d	mm (in.)	96 (3.78)	128 (5.04)	179 (7.05)	239 (9.41)	287 (11.30)
d ₁	mm (in.)	70 (2.76)	102 (4.02)	153 (6.02)	213 (8.39)	261 (10.28)
d ₂	mm (in.)	67 (2.64)	99 (3.90)	150 (5.91)	210 (8.27)	258 (10.16)
h	mm (in.)	8 (0.31)	8 (0.31)	8 (0.31)	8 (0.31)	8 (0.31)
s	mm (in.)	3.9 (0.15)	3.9 (0.15)	3.9 (0.15)	3.9 (0.15)	3.9 (0.15)

Ordering Information

Aluminium/FPM (FKM)	Part No.	268 41	268 42	268 43	268 44	268 45
Aluminium/CR	Part No.	268 05	268 06	268 09	268 19	268 17
Stainless steel/FPM (FKM) ¹⁾	Part No.	887 03	887 04	887 07	887 02	887 08

Technical Data

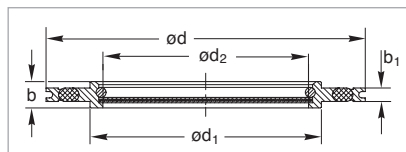
DN	ISO-K	320	400	500	630	800	1000
d	mm (in.)	358 (14.09)	440 (17.32)	541 (21.30)	691 (27.20)	840 (33.07)	1040 (40.94)
d ₁	mm (in.)	318 (12.52)	400 (15.75)	501 (19.72)	651 (25.63)	800 (31.50)	1000 (39.37)
d ₂	mm (in.)	313 (12.32)	395 (15.55)	496 (19.53)	646 (25.43)	795 (31.18)	995 (39.17)
h	mm (in.)	14 (0.55)	14 (0.55)	14 (0.55)	14 (0.55)	14 (0.55)	14 (0.55)
s	mm (in.)	5.6 (0.22)	5.6 (0.22)	5.6 (0.22)	5.6 (0.22)	5.6 (0.22)	5.6 (0.22)

Ordering Information

Aluminium/FPM (FKM)	Part No.	268 46	268 47	268 48	268 49	268 50	268 51
Aluminium/CR	Part No.	268 18	268 14	268 15	268 16	-	-

¹⁾ Inner ring: stainless steel, outer ring: aluminium

Centering Rings with Fine Filter (Stainless Steel 1.4301) and O-Ring (FPM (FKM))



Dimensional drawing for the centering rings with fine filter

Filter material: Stainless steel 1.4404, size of pores: 4 μm , separation grade: 1 μm particles to 98%

Technical Data

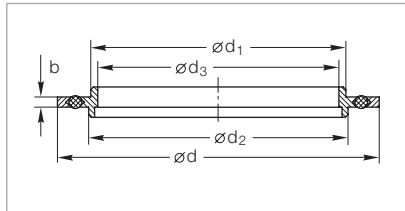
DN	ISO-K	63	100
b	mm (in.)	8 (0.31)	8 (0.31)
b ₁	mm (in.)	4 (0.16)	4 (0.16)
d	mm (in.)	96 (3.78)	128 (5.04)
d ₁	mm (in.)	70 (2.76)	102 (4.02)
d ₂	mm (in.)	62 (2.44)	94 (3.7)

Ordering Information

Stainless steel	Part No.	887 20	887 21
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Important: In the table of Chapter "General" the German designation for the type of steel is also stated in accordance with AISI.

Centering Ring Adaptors (Aluminium) with O-Ring (FPM (FKM)), ISO-K



Dimensional drawing for the centering ring adaptors with O-ring

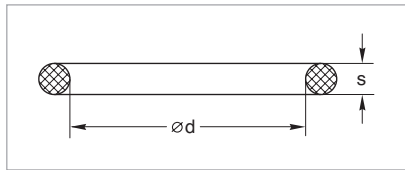
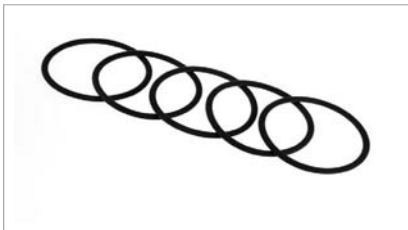
Technical Data

DN	ISO-K	100	160	250
b	mm (in.)	4 (0.16)	4 (0.16)	4 (0.16)
d	mm (in.)	126 (4.96)	177 (6.97)	286 (11.26)
d ₁	mm (in.)	100 (3.94)	150 (5.91)	250 (9.84)
d ₂	mm (in.)	102 (4.02)	153 (6.02)	261 (10.28)
d ₃	mm (in.)	95 (3.74)	145 (5.71)	244 (9.61)

Ordering Information

Aluminium/FPM (FKM)	Part No.	105 25	105 35	105 45
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O-Ring Gaskets for Clamp Flange Fittings



Dimensional drawing for the spare O-ring for clamp flange fittings

Technical Data

DN	ISO-K	63	100	160	200	250	320
d	mm (in.)	75 (2.95)	107 (4.21)	158 (6.22)	208 (8.19)	253 (9.96)	329 (12.95)
s	mm (in.)	5 (0.20)	5 (0.20)	5 (0.20)	5 (0.20)	5 (0.20)	7 (0.28)
Quantity per set		5	5	5	5	5	1

Ordering Information

FPM (FKM)	Part No.	ES210635	ES210645	ES210650	ES210655	ES210660	E210665
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Technical Data

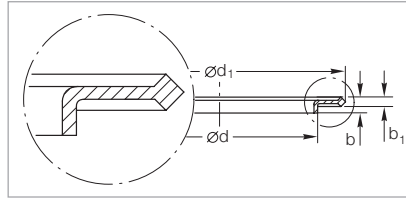
DN	ISO-K	400	500
d	mm (in.)	405 (15.94)	506 (19.92)
s	mm (in.)	7 (0.28)	7 (0.28)
Quantity per set		1	1

Ordering Information

FPM (FKM)	Part No.	E210670	E210675
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Important: In the table of Chapter "General" the German designation for the type of steel is also stated in accordance with AISI.

Ultra Sealing Disks (Aluminium 3.2315.70) ¹⁾



Dimensional drawing for the ultra sealing disks

Technical Data

DN	ISO-K / ISO-F	63	100	160	250
b	mm (in.)	4.5 (0.18)	4.5 (0.18)	4.5 (0.18)	4.5 (0.18)
b₁	mm (in.)	2.6 (0.10)	2.6 (0.10)	2.6 (0.10)	2.6 (0.10)
d	mm (in.)	69.8 (2.75)	101.8 (4.01)	152.8 (6.02)	260.8 (10.27)
d₁	mm (in.)	85.6 (3.37)	116.6 (4.59)	166.6 (6.56)	276.6 (10.89)

Ordering Information

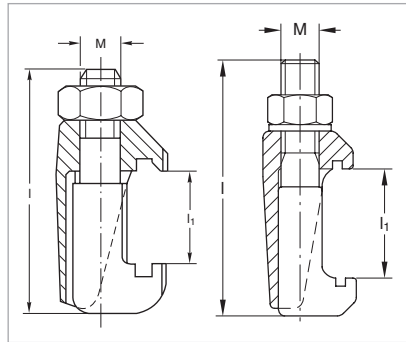
Aluminium	Part No.	886 24	886 25	886 26	886 27
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¹⁾ Only for collar ring connections

Clamps for ISO-K



Clamps for ISO-K, stainless steel



Dimensional drawing for the clamps,
right: Part No. 210 061

Exact numbers of clamps see first page of the chapter "(ISO-K) Clamp Flange Fittings and Components"

Technical Data

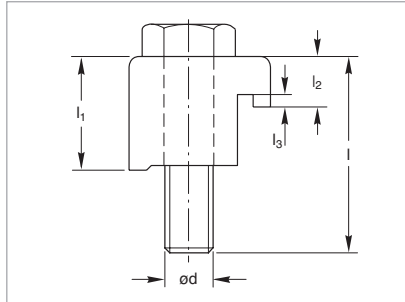
DN	ISO-K	63 / 250	63 / 250	320 / 500	630	320 / 630
Number of required clamps per connection		4 / 6	4 / 6	8 / 12	12	8 / 12
M	thread	M 10	M 10	M 12	M 12	M 12
l	mm (in.)	61.0 (2.40)	68.0 (2.68)	78.0 (3.07)	88.0 (3.46)	82.5 (3.25)
l₁	mm (in.)	17 to 27 (0.67 to 1.06)	25 to 35 (0.98 to 1.38)	27 to 39 (1.06 to 1.54)	31 to 49 (1.22 to 1.93)	29 to 47 (1.14 to 1.85)

Ordering Information

1 set = 4 clamps						
Galvanized steel 1.1181	Part No.	267 01	267 02	267 10	267 11	-
Stainless steel 1.4401	Part No.	887 99	-	-	-	210 061

Important: In the table of Chapter "General" the German designation for the type of steel is also stated in accordance with AISI.

Claws (Galvanized Steel 1.1181) for ISO-K



Dimensional drawing for the claws for ISO-K

Exact numbers of clamps see first page of the chapter "(ISO-K) Clamp Flange Fittings and Components".

Note: These clamps are not suitable for the installation of turbomolecular pumps. Please use the fasteners specified in the operating instruction of the pump.

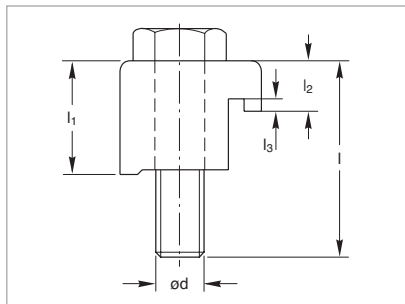
Technical Data

DN	ISO-K	63 / 100	160 / 250	320 / 500	630
Number of required claws per connection		4 / 8	8 / 12	12 / 16	20
d	thread	M 8	M 10	M 12	M 12
l	mm (in.)	35 (1.38)	35 (1.38)	50 (1.97)	55 (2.17)
l ₁	mm (in.)	22.5 (0.89)	23.0 (0.91)	36.5 (1.44)	41.5 (1.63)
l ₂	mm (in.)	8.6 (0.34)	9.1 (0.36)	15.9 (0.63)	16 (0.63)
l ₃	mm (in.)	2.5 (0.10)	2.5 (0.10)	2.5 (0.10)	2.5 (0.10)

Ordering Information

1 set = 4 claws	Part No.	268 25	268 26	268 27	268 28
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Claws for Sealing Groove in Base Plate (Galvanized Steel 1.1181) for ISO-K



Dimensional drawing for the claws for sealing groove

Exact numbers of clamps see first page of the chapter "(ISO-K) Clamp Flange Fittings and Components".

Note: These clamps are not suitable for the installation of turbomolecular pumps. Please use the fasteners specified in the operating instruction of the pump.

Technical Data

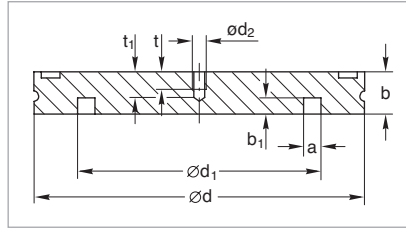
DN	ISO-K	63 / 100	160 / 250	320 / 500
d	thread	M 8	M 10	M 12
l	mm (in.)	30 (1.18)	35 (1.38)	45 (1.77)
l ₁	mm (in.)	18.6 (0.73)	19 (0.75)	31 (1.22)
l ₂	mm (in.)	8.6 (0.34)	9.0 (0.35)	16.0 (0.63)
l ₃	mm (in.)	2.5 (0.10)	2.5 (0.10)	2.5 (0.10)

Ordering Information

1 set = 4 claws	Part No.	268 76	268 77	268 78
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Important: In the table of Chapter "General" the German designation for the type of steel is also stated in accordance with AISI.

Blank Flanges (Nickel-Plated Steel 1.0037 / Stainless Steel 1.4301)



Dimensional drawing for the blank flanges

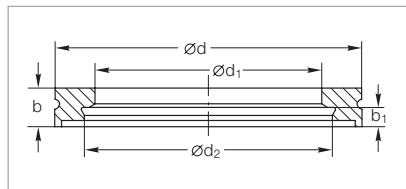
Technical Data

DN	ISO-K	63	100	160	200	250	320	400	500	630
a	mm	5	5	5	5	5	5	5	5	5
	in.	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
b	mm	12	12	12	12	12	17	17	17	22
	in.	0.47	0.47	0.47	0.47	0.47	0.67	0.67	0.67	0.87
b ₁	mm	4.5	4.5	4.5	4.5	4.5	6.5	6.5	6.5	6.5
	in.	0.18	0.18	0.18	0.18	0.18	0.26	0.26	0.26	0.26
d	mm	95	130	180	240	290	370	450	550	690
	in.	3.74	5.12	7.09	9.45	11.42	14.57	17.72	21.65	27.17
d ₁	mm	70	102	153	213	261	318	400	501	651
	in.	2.76	4.02	6.02	8.39	10.28	12.52	15.75	19.72	25.63
d ₂	thread	-	-	-	-	-	-	-	M 8	M 8
t	mm	8	8	8	8	8	8	8	8	8
	in.	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
t ₁	mm	12	12	12	12	12	12	12	12	12
	in.	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47

Ordering Information

Nickel-plated steel	Part No.	26947	26948	26949	-	26956	-	-	-	-
Stainless steel	Part No.	88755	88756	88757	88754	88758	88759	88760	88761	88762

Welding Flanges



Dimensional drawing for the welding flanges

Technical Data

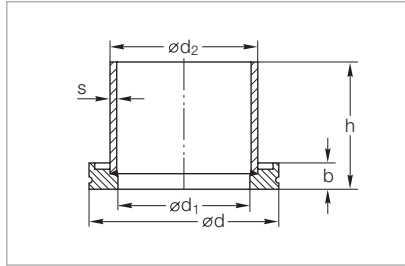
DN	ISO-K	63	100	160	200	250
b	mm (in.)	12 (0.47)	12 (0.47)	12 (0.47)	12 (0.47)	12 (0.47)
	mm (in.)	6 (0.24)	6 (0.24)	6 (0.24)	6 (0.24)	6 (0.24)
d	mm (in.)	95 (3.74)	130 (5.12)	180 (7.09)	240 (9.45)	290 (11.42)
	mm (in.)	70 (2.76)	102 (4.02)	153 (6.02)	213 (8.39)	261 (10.28)
d ₁	mm (in.)	76.6 (3.02)	108.7 (4.28)	159.8 (6.29)	219.8 (8.65)	267.8 (10.54)
	mm (in.)	76.6 (3.02)	108.7 (4.28)	159.8 (6.29)	219.8 (8.65)	267.8 (10.54)

Ordering Information

Steel 1.0831	Part No.	269 61	269 62	269 63	-	269 65
Stainless steel 1.4301	Part No.	886 61	886 62	886 63	886 64	886 65

Important: In the table of Chapter "General" the German designation for the type of steel is also stated in accordance with AISI.

Clamp Flanges with Tubulation (Steel 1.0831, 1.0308 / Stainless Steel 1.4301)



Dimensional drawing for the clamp flanges with tubulation

Technical Data

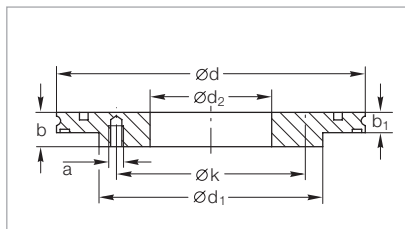
DN	ISO-K	63	100	160	200	250	320	400	500	630
d	mm	95	130	180	240	290	370	450	550	690
	in.	3.74	5.12	7.09	9.45	11.42	14.57	17.72	21.65	27.17
d ₁	mm	70	102	153	213	261	318	400	501	651
	in.	2.76	4.02	6.02	8.39	10.28	12.52	15.75	19.72	25.63
d ₂	mm	76.1	108	159	219.1	267	324	406	508	660
	in.	3.00	4.25	6.26	8.63	10.51	12.76	15.98	20.00	25.98
h	mm	100	100	100	100	100	100	100	100	100
	in.	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94
s (steel)	mm	2.9	2.9	2.9	–	3	3	3	4	5
	in.	0.11	0.11	0.11	–	0.12	0.12	0.12	0.16	0.20
s (stainless steel)	mm	2.3	2	2	3	3	3	3	4	5
	in.	0.09	0.08	0.08	0.12	0.12	0.12	0.12	0.16	0.20
b	mm	12	12	12	12	12	17	17	17	22
	in.	0.47	0.47	0.47	0.47	0.47	0.67	0.67	0.67	0.87

Ordering Information

Steel 1.0831	Part No.	26904	26905	26906	–	26917	–	–	–	–
Stainless steel 1.4301	Part No.	88640	88641	88642	88643	88718	88719	88646	88647	88648

Not suited for the mounting of turbo molecular pumps

Reducing Flanges (Stainless Steel 1.4301)



Dimensional drawing for the reducing flanges

Technical Data

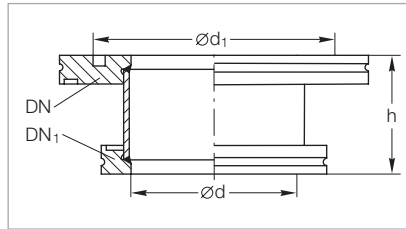
DN	ISO-K	160/63	160/100	200/100	200/160	250/160
a	thread	M 8	M 8	M 8	M 10	M 10
b	mm (in.)	22 (0.87)	25 (0.98)	20 (0.79)	25 (0.98)	22 (0.87)
b ₁	mm (in.)	12 (0.47)	12 (0.47)	12 (0.47)	12 (0.47)	12 (0.47)
d	mm (in.)	180 (7.09)	180 (7.09)	240 (9.49)	240 (9.49)	290 (11.42)
d ₁	mm (in.)	130 (5.12)	165 (6.50)	165 (6.50)	225 (8.86)	225 (8.86)
d ₂	mm (in.)	70 (2.76)	102 (4.02)	102 (4.02)	153 (6.02)	153 (6.02)
k	mm (in.)	110 (4.33)	145	145 (5.71)	200 (7.87)	200 (7.87)

Ordering Information

Stainless steel	Part No.	886 14	886 15	886 17	886 16	886 50
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Important: In the table of Chapter "General" the German designation for the type of steel is also stated in accordance with AISI.

Reducers (Stainless Steel)



Dimensional drawing for the reducers

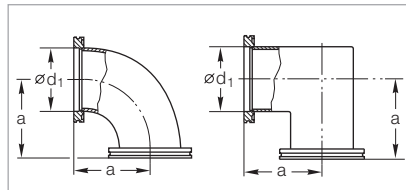
Technical Data

DN	ISO-K	100	250
DN ₁	ISO-K	63	200
d	mm (in.)	70 (2.76)	213 (8.39)
d ₁	mm (in.)	102 (4.02)	261 (10.28)
h	mm (in.)	50 (1.97)	50 (1.97)

Ordering Information

Stainless steel			
1.4301	Part No.	887 89	887 93
Not suited for the mounting of turbo molecular pumps			

Pipe Bend (Stainless Steel 1.4301); from DN 160 ISO-K Mitred Elbow



Dimensional drawing for the pipe bends (left) and the mitred elbows (right)

Technical Data

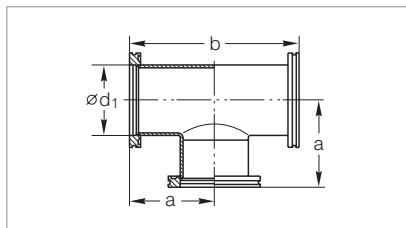
DN	ISO-K	63	100	160	250
a	mm (in.)	88 (3.46)	108 (4.25)	138 (5.43)	208 (8.19)
d ₁	mm (in.)	70 (2.76)	102 (4.02)	153 (6.02)	261 (10.28)
Weight	kg (lbs)	1.1 (2.43)	2.2 (4.8)	5.9 (13.02)	9.9 (21.85)
Conductance	l/s	208	470	1200	3700

Ordering Information

Stainless steel					
	Part No.	887 25	887 26	887 27	887 28
Not suited for the mounting of turbo molecular pumps					

Important: In the table of Chapter "General" the German designation for the type of steel is also stated in accordance with AISI.

Tees (Stainless Steel 1.4301)



Dimensional drawing for the tees

Technical Data

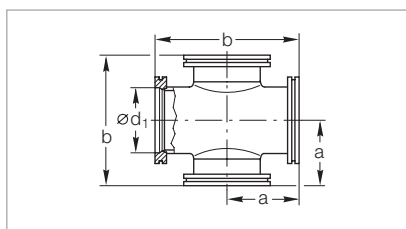
DN	ISO-K	63	100	160	250
a	mm (in.)	88 (3.46)	108 (4.25)	138 (5.43)	208 (8.19)
b	mm (in.)	176 (6.93)	216 (8.50)	276 (10.87)	416 (16.38)
d_1	mm (in.)	70 (2.76)	102 (4.02)	153 (6.02)	261 (10.28)
Weight	kg (lbs)	1.6 (3.53)	3.2 (7.06)	7.6 (16.78)	8.1 (17.88)

Ordering Information

Stainless steel	Part No.	887 35	887 36	887 37	887 38
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Not suited for the mounting of turbo molecular pumps

4-Way Crosses (Stainless Steel 1.4301)



Dimensional drawing for the 4-way crosses

Technical Data

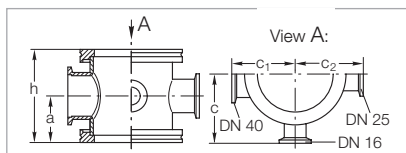
DN	ISO-K	63	100	160	250
a	mm (in.)	88 (3.46)	108 (4.25)	138 (5.43)	208 (8.19)
b	mm (in.)	176 (6.93)	216 (8.50)	276 (10.87)	416 (16.38)
d_1	mm (in.)	70 (2.76)	102 (4.02)	153 (6.02)	261 (10.28)

Ordering Information

Stainless steel	Part No.	887 45	887 46	887 47	887 48
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Not suited for the mounting of turbo molecular pumps

Branching Pieces with lateral DN 16/25/40 ISO-KF Flanges (Stainless Steel 1.4301)



Dimensional drawing for the branching pieces with lateral DN 16/25/40 flanges

Can not be used with collar flanges ISO-F and DIN EN 1092-1

Technical Data

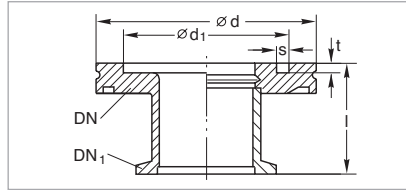
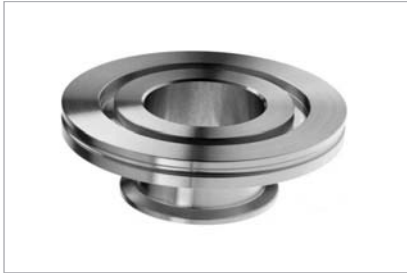
DN	ISO-K	63	100	160
a	mm (in.)	44 (1.73)	50 (1.97)	50 (1.97)
h	mm (in.)	88 (3.46)	100 (3.94)	100 (3.94)
c	mm (in.)	66 (2.60)	82 (3.23)	107 (4.21)
c_1	mm (in.)	59 (2.32)	77 (3.03)	105 (4.13)
c_2	mm (in.)	64 (2.52)	80 (3.15)	107 (4.21)

Ordering Information

Stainless steel	Part No.	886 71	886 72	886 73
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Important: In the table of Chapter "General" the German designation for the type of steel is also stated in accordance with AISI.

Adaptors-Reducers ISO-K – ISO-KF



Dimensional drawing for the adaptors-reducer ISO-K – ISO-KF;
left: aluminium; right: stainless steel

Technical Data

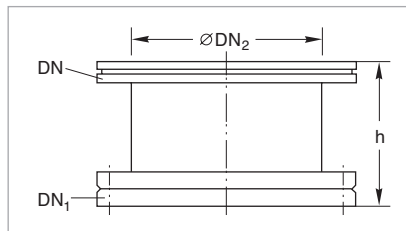
DN	ISO-K	63	63	100
DN ₁	ISO-KF	40	50	40
d	mm (in.)	95 (3.74)	95 (3.74)	130 (5.12)
d ₁	mm (in.)	70 (2.76)	70 (2.76)	102 (4.02)
l	mm (in.)	40 (1.57)	45 (1.77)	40 (1.57)
s	mm (in.)	5 (0.2)	5 (0.2)	5 (0.2)
t	mm (in.)	4.5 (0.16)	4.5 (0.16)	4.5 (0.16)
Weight	kg (lbs)	0.5 (1.1)	0.6 (1.32)	0.8 (1.77)

Ordering Information

Stainless steel 1.4301	Part No.	887 40	887 41	887 42
Aluminium 3.2315.71	Part No.	269 40	269 41	-

Not suited for the mounting of turbo molecular pumps

Adaptors ISO-K – CF



Dimensional drawing for the adaptors ISO-K – CF

Technical Data

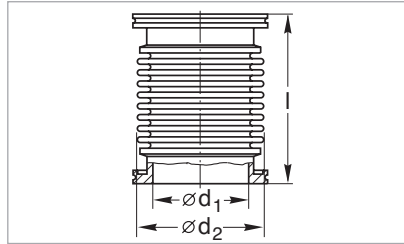
DN	ISO-K	63	100	160
DN ₁	CF	63	100	160
o. D.	in.	4 1/2	6	8
DN ₂	mm (in.)	66 (2.60)	104 (4.09)	153 (6.02)
h	mm (in.)	90 (3.54)	90 (3.54)	90 (3.54)

Ordering Information

Stainless steel DIN 1.4301	Part No.	837 01	837 02	837 03
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Important: In the table of Chapter "General" the German designation for the type of steel is also stated in accordance with AISI.

Bellows (Stainless Steel 1.4571) with Flanges (Stainless Steel 1.4301)



Dimensional drawing for the bellows

Technical Data

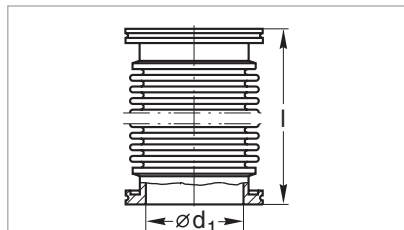
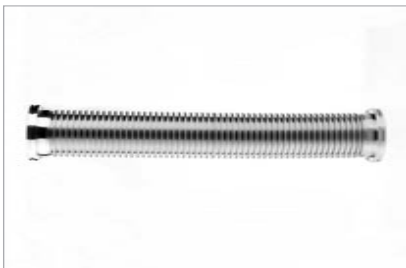
DN	ISO-K	63	100	160	250
d_1	mm (in.)	66 (2.60)	95 (3.74)	153 (6.02)	261 (10.78)
d_2	mm (in.)	83.7 (3.30)	120 (4.72)	186 (7.32)	305 (12.01)
l	mm (in.)	132 (5.20)	132 (5.20)	150 (5.91)	200 (7.87)
Weight	kg (lbs)	1.0 (2.21)	3.9 (8.61)	6.2 (13.69)	9.3 (20.53)
Compression	mm (in.)	20 (0.79)	28 (1.10)	22 (0.87)	30 (1.18)
Tension	mm (in.)	20 (0.79)	28 (1.10)	22 (0.87)	30 (1.18)
Max. bending angle	degrees ¹⁾	$\pm 30^\circ$	$\pm 30^\circ$	$\pm 14^\circ$	$\pm 13^\circ$
Lateral displacement	mm (in.)	7.5 (0.28)	9.0 (0.35)	3.5 (0.14)	4.5 (0.18)

Ordering Information

Stainless steel	Part No.	887 70	887 71	887 72	887 68
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¹⁾ When utilizing the maximum bend, no extension along the axial axis will be possible!

Flexible Vacuum Hoses (Stainless Steel 1.4571) with Flanges (Stainless Steel 1.4301)



Dimensional drawing for the flexible vacuum hoses

Technical Data

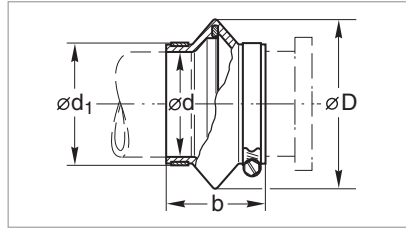
DN	ISO-K	63	63	63	63	100	100	100	100
d_1	mm	70	70	70	70	102	102	102	102
	in.	2.76	2.76	2.76	2.76	2.76	4.02	4.02	4.02
l	mm	250	500	750	1000	250	500	750	1000
	in.	9.84	19.69	29.53	39.37	9.84	19.69	29.53	39.37
Max. bending radius with multiple bending	mm	250	250	250	250	370	370	370	370
	in.	9.84	9.84	9.84	9.84	14.57	14.57	14.57	14.57
with single bend	mm	160	160	160	160	240	240	240	240
	in.	8.30	8.30	8.30	8.30	9.45	9.45	9.45	9.45

Ordering Information

Stainless steel	Part No.	868 37	867 97	868 34	868 07	868 38	867 98	868 35	868 08
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Important: In the table of Chapter "General" the German designation for the type of steel is also stated in accordance with AISI.

Flexible Compensation Elements (CR)



Dimensional drawing for the flexible compensation elements

Technical Data

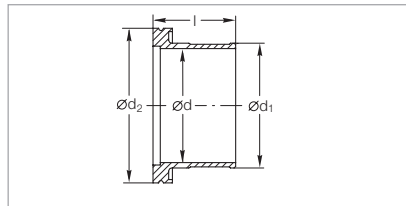
DN	ISO-K	63	100	160
D	mm (in.)	120 (4.72)	150 (5.91)	200 (7.87)
d	mm (in.)	75 (2.95)	106 (4.17)	155 (6.10)
d_1	mm (in.)	85 (3.35)	116 (4.57)	165 (6.50)
b	mm (in.)	70 (2.76)	72 (2.83)	72 (2.83)

Ordering Information

CR	Part No.	272 23 ¹⁾	272 24 ¹⁾	272 25 ¹⁾
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¹⁾ Is supplied complete with stainless steel hose clamps

Connections for Flexible Compensation Elements (Aluminium 3.2315.71)



Dimensional drawing for the connections for flexible compensation elements

Technical Data

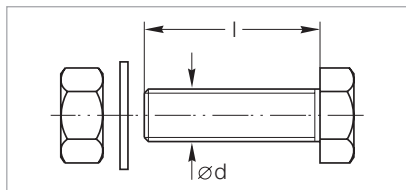
DN	ISO-K	63	100	160
d	mm (in.)	70 (2.76)	102 (4.02)	150 (5.91)
d_1	mm (in.)	76 (2.99)	107 (4.21)	156 (6.14)
d_2	mm (in.)	95 (3.74)	130 (5.12)	180 (7.09)
l	mm (in.)	51 (2.01)	56 (2.20)	56 (2.20)

Ordering Information

Aluminium	Part No.	272 35	272 36	272 37
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Important: In the table of Chapter "General" the German designation for the type of steel is also stated in accordance with AISI.

Bolts for Clamp Flange Fittings (Steel 8.8, zinc coated)



Dimensional drawing for the bolts for clamp flange fittings

Technical Data

DN	ISO-K	63 – 100	160 – 250	320 – 500
Dimensions				
d	thread	M 8	M 10	M 12
l	mm (in.)	40 (1.57)	50 (1.97)	70 (2.76)
Quantity per set				
Bolts		8	12	16
Nuts		8	12	16
Washers		8	12	16

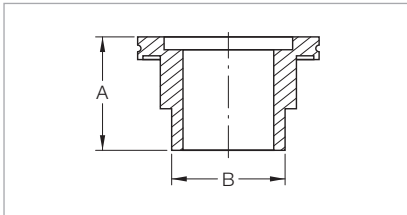
Ordering Information

Set	Part No.	887 81	887 82	887 83 (*)
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(*) Also suitable for DN 630 connections. 20 pieces needed for each connection.

Only available for purchase in North and South America

ISO-K to NPT Adaptor



Dimensional drawing for the ISO-K / NPT adaptor

Technical Data

DN		63 ISO-K / 2" NPT
A	mm (in.)	60.0 (2.36)
∅ B	mm (in.)	51.0 (2" NPT)

Ordering Information

Stainless steel	Part No.	72103040
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Important: In the table of Chapter "General" the German designation for the type of steel is also stated in accordance with AISI.

ISO-F and DIN EN 1092-1 Fixed Flange Fittings, ND 6

Note: ND 6 states a dimension and not refer to an operating pressure of 6 bar!

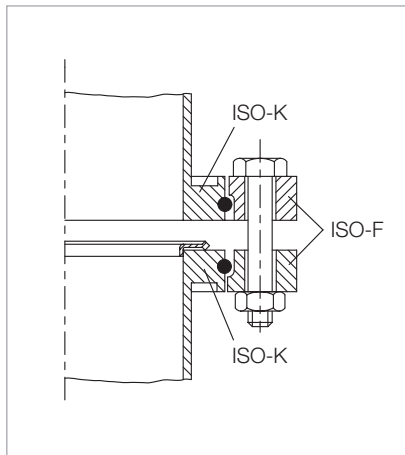


Mating clamp flanges with tubulation using collar rings and sealing disk

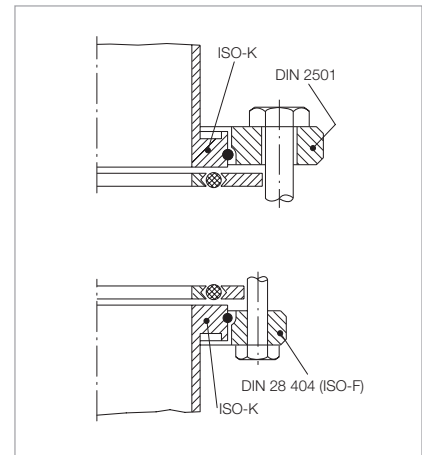
In addition to clamp flange connections, fixed welded flanges (ISO-F or to DIN EN 1092-1) are used in the area of vacuum engineering to interconnect valves, pumps and other components.

Advantages to the User

- A high vacuum seal is maintained also at large nominal width and high mechanical loads
- Evenly distributed sealing force through a large number of bolts
- Can be easily adapted to other flange systems
- Vacuum sealing disks consist of a CR O-ring seal with inner and outer aluminium ring
- Fixed flanges and collar flanges may also be constructed as all-metal seals by using ultra sealing disks



Mating clamp flanges using bolted collar rings and ultra sealing disk



Comparison: Clamp flange with collar flange to DIN EN 1092-1 and clamp flange with collar flange to DIN 28 404; ISO-F

Collar Flange

Steel

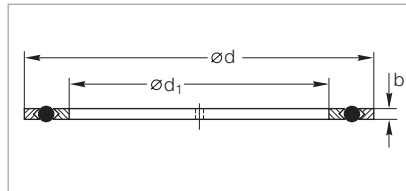
Stainless Steel

Bolts and nuts	Galvanized 8.8 steel	1.4401
Retaining ring	Steel	1.4310

Important: In the table of Chapter "General" the German designation for the type of steel is also stated in accordance with AISI.

ISO-F Fixed Flange Fittings

Vacuum Sealing Disks for ISO-F Flanges (Aluminium/CR)



Dimensional drawing for vacuum sealing disks

Technical Data

DN	ISO-F	63	100	160	250	320
d	mm (in.)	98 (3.86)	132 (5.20)	185 (7.28)	295 (11.61)	375 (14.76)
d ₁	mm (in.)	73 (2.87)	107 (4.21)	160 (6.30)	270 (10.63)	330 (12.99)
b	mm (in.)	4 (0.16)	4 (0.16)	4 (0.16)	4 (0.16)	6 (0.24)

Ordering Information

Aluminum/CR	Part No.	171 09	171 10	171 11	171 12	171 19
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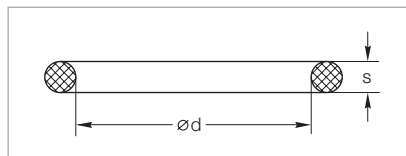
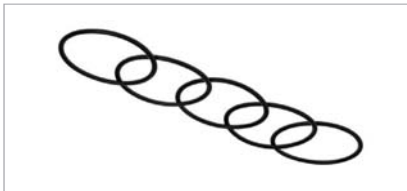
Technical Data

DN	ISO-F	400	500	630	800	1000
d	mm (in.)	460 (18.11)	560 (22.05)	701 (27.60)	870 (34.25)	1070 (42.13)
d ₁	mm (in.)	415 (16.34)	515 (20.28)	656 (25.83)	825 (32.48)	1025 (40.35)
b	mm (in.)	6 (0.24)	6 (0.24)	6 (0.24)	6 (0.24)	6 (0.24)

Ordering Information

Al/CR	Part No.	171 14	171 15	171 16	171 17	171 18
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Spare O-Ring Gaskets for ISO-F Flange Connection



Dimensional drawing for O-rings

Technical Data

DN	ISO-F	63	100	160	250	320
d	mm (in.)	80 (3.15)	110 (4.33)	165 (6.50)	265 (10.43)	325 (12.75)
s	mm (in.)	5 (0.20)	5 (0.20)	5 (0.20)	5 (0.20)	8 (0.31)
Quantity per set		5	5	5	5	1

Ordering Information

CR	Part No.	ES210701	ES210711	ES210716	ES210721	E210726
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Technical Data

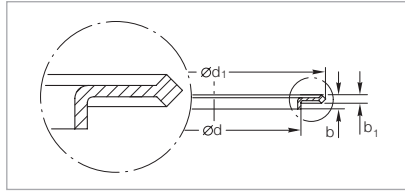
DN	ISO-F	400	630	800	1000
d	mm (in.)	412 (16.22)	640 (25.20)	820 (32.28)	1023 (40.28)
s	mm (in.)	8 (0.31)	8 (0.31)	8 (0.31)	8 (0.31)
Quantity per set		1	1	1	1

Ordering Information

CR	Part No.	E210731	E210741	E210746	E210751
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Important: In the table of Chapter "General" the German designation for the type of steel is also stated in accordance with AISI.

Ultra Sealing Disks (Aluminium 3.2315.71) for ISO-F Flanges



Dimensional drawing for O-rings

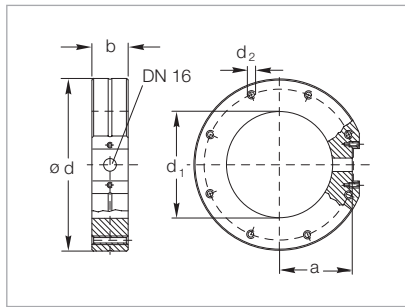
Technical Data

DN	ISO-K / ISO-F	63	100	160	250
b	mm (in.)	4.5 (0.18)	4.5 (0.18)	4.5 (0.18)	4.5 (0.18)
b ₁	mm (in.)	2.6 (0.10)	2.6 (0.10)	2.6 (0.10)	2.6 (0.10)
d	mm (in.)	69.8 (2.75)	101.8 (4.01)	152.8 (6.02)	260.8 (10.27)
d ₁	mm (in.)	85.6 (3.37)	116.6 (4.59)	166.6 (6.56)	276.6 (10.89)

Ordering Information

Aluminium	Part No.	886 24	886 25	886 26	886 27
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Measurement Flanges



Dimensional drawing for the measurement flanges

Technical Data

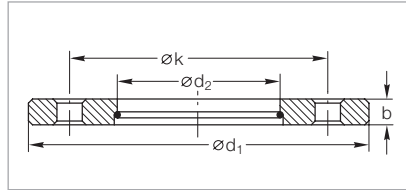
DN	ISO-K	63	100	160
a	mm (in.)	52.3 (2.06)	71.3 (2.81)	102.3 (4.03)
b	mm (in.)	30 (1.18)	30 (1.18)	30 (1.18)
d	mm (in.)	130 (5.12)	165 (6.50)	225 (8.86)
d ₁	mm (in.)	70 (2.76)	102 (4.02)	153 (6.02)
d ₂	thread	M 8	M 8	M 10
Number of threaded holes		4	8	8

Ordering Information

Stainless steel 1.4301	Part No.	286 60	286 61	286 62
Recommended centering ring (2x)	Part No.	887 03	887 04	887 07

Important: In the table of Chapter "General" the German designation for the type of steel is also stated in accordance with AISI.

ISO-F Collar Flanges with Retaining Ring for use with Clamp Flange Fittings (Steel 1.0037) and Stainless Steel



Dimensional drawing for collar flanges with retaining ring

Technical Data

DN	ISO-F	63	100	160	200	250
d_1	mm (in.)	130 (5.12)	165 (6.50)	225 (8.86)	285 (11.22)	335 (13.19)
d_2	mm (in.)	95.6 (3.76)	130.6 (5.14)	180.9 (7.12)	240.9 (9.48)	290.9 (11.45)
k	mm (in.)	110 (4.93)	145 (5.71)	200 (7.87)	260 (10.24)	310 (12.20)
b	mm (in.)	12 (0.47)	12 (0.47)	16 (0.63)	16 (0.63)	16 (0.63)
Number of holes		4	8	8	12	12

Ordering Information

Nickel-plated steel	Part No.	267 67	267 70	267 71	267 68	267 72
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Technical Data

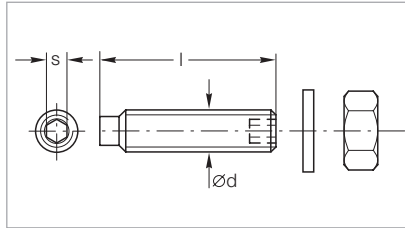
DN	ISO-F	320	400	500	630
d_1	mm (in.)	425 (16.73)	510 (20.08)	610 (24.02)	750 (29.53)
d_2	mm (in.)	370.8 (14.60)	451.0 (17.76)	551.0 (21.69)	691.0 (27.20)
k	mm (in.)	395 (15.51)	480 (18.90)	580 (22.83)	720 (28.35)
b	mm (in.)	20 (0.79)	20 (0.79)	20 (0.79)	24 (0.95)
Number of holes		12	16	16	20

Ordering Information

Nickel-plated steel	Part No.	267 76	267 74	267 75	267 77
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Important: In the table of Chapter "General" the German designation for the type of steel is also stated in accordance with AISI.

Bolts, Nuts and Washers for Joints with VAT Gate Valves



Dimensional drawing for the set screws, nuts and washers

Technical Data

DN	ISO-F	63 – 100	160 – 250
Dimensions			
d	thread	M 8	M 10
l	mm (in.)	45 (1.77)	55 (2.17)
s	mm (in.)	4 (0.16)	6 (0.24)
Quantity per set			
Bolts		16	12
Nuts		16	12
Washers		16	12

Ordering Information

Set	Part No.	839 13	210 071
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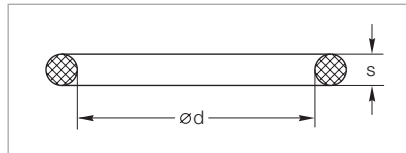
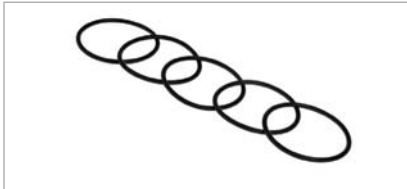
Important: In the table of Chapter “General” the German designation for the type of steel is also stated in accordance with AISI.

DIN EN – Fixed Flange Fittings ND 6

Outside dimensions and hole pattern in accordance to DIN EN 1092-1;
inside contour similar with DIN 28404

Note: ND 6 states a dimension and does not refer to an operating pressure of 6 bar!

Spare O-Ring Gaskets for Vacuum Sealing Disks DIN EN 1092-1



Dimensional drawing for O-ring gaskets

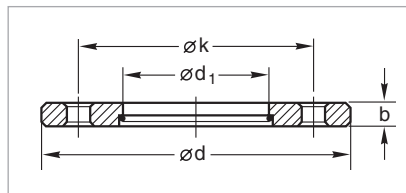
Technical Data

DN	ISO-F	63	100	160
d	mm (in.)	80 (3.15)	110 (4.23)	165 (6.50)
s	mm (in.)	5 (0.20)	5 (0.20)	5 (0.20)
Quantity per set		5	5	5

Ordering Information

CR	Part No.	ES210701	ES210711	ES210716
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Collar Flanges with Retaining Ring (Steel 1.0037)



Dimensional drawing for collar flanges with retaining ring

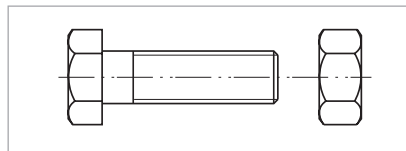
Technical Data

DN	DIN	63	100	160
d	mm (in.)	160 (6.30)	210 (8.27)	265 (10.43)
d_1	mm (in.)	95.6 (3.76)	130.6 (5.14)	180.9 (7.12)
k	mm (in.)	130 (5.12)	170 (6.69)	225 (8.86)
b	mm (in.)	12 (0.47)	15 (0.59)	15 (0.59)

Ordering Information

Stainless Steel	Part No.	86747V01	86750V01	86751V01
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Bolts and Nuts for DIN Collar Flange



Dimensional drawing for bolts and nuts

Technical Data

DN	DIN	63	100	160	250
Dimensions					
d	thread	M 12	M 16	M 16	M 16
l	mm (in.)	40 (1.57)	50 (1.97)	50 (1.97)	50 (1.97)
Number of bolts/nuts required		4	8	8	12

Ordering Information

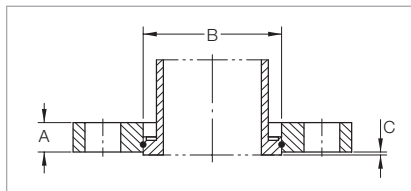
1 bolt (galvanized 8.8 steel)	Part No.	201 02 381	201 02 434	201 02 434	201 02 434
1 nut (galvanized 8.8 steel)	Part No.	211 01 115	211 01 117	211 01 117	211 01 117

Important: In the table of Chapter "General" the German designation for the type of steel is also stated in accordance with AISI.

Only available for purchase in North and South America

ANSI Fittings

Flanges, Rotatable Bolt Type



Dimensional drawing for the flanges,
rotatable type
(tube piece shown in phantom not included)

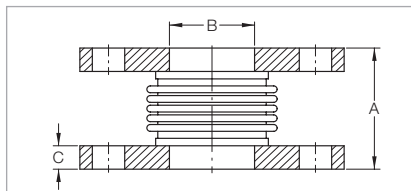
Technical Data

DN	ISO-K to ANSI	63 3"	100 4"	160 6"	250 10"
A	mm (in.)	13.0 (0.50)	13.0 (0.50)	16.0 (0.63)	22.0 (0.88)
∅ B	mm (in.)	95.5 (3.76)	131.0 (5.14)	181.0 (7.12)	291.0 (11.45)
C	mm (in.)	1 (0.039)	1 (0.039)	1 (0.039)	1 (0.039)

Ordering Information

Stainless steel	Part No.	982780700	982780701	982780702	982780703
Spare retaining ring (Set of 10 pcs)	Part No.	ES23102401	ES23102402	ES23102412	-

Bellows



Dimensional drawing for the bellows

Combined axial/lateral deflection cannot
exceed 100%.

Example: 75% axial rating – 25% lateral
rating

Technical Data

DN	ANSI	3"	4"	6"
A	mm (in.)	120.0 (4.72)	120.0 (4.72)	200.0 (7.87)
∅ B	mm (in.)	78.0 (3.07)	102.0 (4.03)	154.0 (6.07)
C	mm (in.)	12.7 (0.50)	12.7 (0.50)	12.7 (0.50)
Rated deflection in axial	mm (in.)	15.0 (0.58)	18.0 (0.70)	29.5 (1.16)
Rated deflection in lateral	mm (in.)	5.0 (0.19)	6.0 (0.22)	8.0 (0.31)
Spring rate	lbi/in.	263.0	340.0	260.0
Compression / tension	mm (in.)	11.68 / 3.56 (0.460 / 0.140)	14.22 / 3.56 (0.560 / 0.140)	22.86 / 6.60 (0.900 / 0.260)

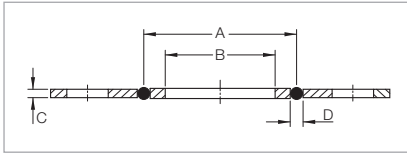
Ordering Information

Stainless steel bellows with carbon steel flanges	Part No.	991051013	991051014	991051016
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Important: In the table of Chapter "General" the German designation for the type of steel is also stated in accordance with AISI.

Only available for purchase in North and South America

Sealing Disk Assembly



Dimensional drawing for the sealing disk assembly

Technical Data

DN	ANSI	3"	4"	6"
∅ A	mm (in.)	91.0 (3.60)	121.0 (4.75)	171.0 (6.72)
∅ B	mm (in.)	78.0 (3.07)	102.0 (4.03)	154.0 (6.07)
C	mm (in.)	3.2 (0.13)	3.2 (0.13)	3.2 (0.13)
∅ D	mm (in.)	4.0 (0.16)	4.0 (0.16)	4.0 (0.16)

Ordering Information

Aluminium	Part No.	910181605	910181606	910181607
Stainless steel	Part No.	-	910181617	-

Important: In the table of Chapter "General" the German designation for the type of steel is also stated in accordance with AISI.