



FLANGES AND FITTINGS



Connections and tightness

All vacuum systems require connections with either pumping systems or different peripheral accessories such as vacuum gauges, valves, etc...

While these connections have to preserve vacuum integrity, they also have to be modular to allow flexibility and required maintenance.

All vacuum applications involve flanges and fittings with stringent requirements regarding materials, dimensions, tightness, conductance, etc...



Adixen's range of Flanges and Fittings

In order to address the vacuum industries requirements, Alcatel offers a large range of accessories based on the 3 most popular standards used in vacuum technology.

- ISO-KF Flanges and Fittings
- ISO-K Flanges and Fittings
- CF Flanges and Fittings

For each standard, Alcatel offers the normalized nominal diameters generally used. Moreover Alcatel offers other diameters historically used in the vacuum industry.

This offer includes a large range of accessories for each standard such as elbows, tees, 4-way crosses, flexible couplings, reducers and also some special adapters from one standard to another.

According to the working pressure, the tightness and the conductance required, fittings will be made with one of the following standards.

ISO-KF Flanges and Fittings

Easy and reliable

ISO-KF Flanges and Fittings allow quick release and tight connections from 10 to 50 mm nominal diameters. With 2 flanges coupled together by a center-ring with a O-ring and a clamp (Fig. 1 & 2), this kind of connection provides many advantages such as:

- Easy and quick mounting
- Assembly without any tools
- Unlimited orientation
- Easy interchangeability

Macrovac series components

Especially useful in the 1000 to 10^4 mbar pressure range, these flanges and fittings offer an economic alternative to conventional metal fittings. Made of Makrolon®, the Macrovac series of flanges and fittings offer the following advantages:

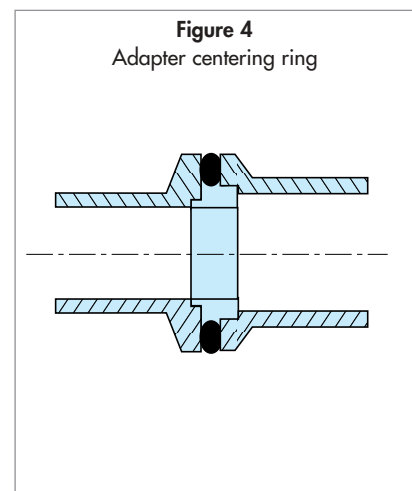
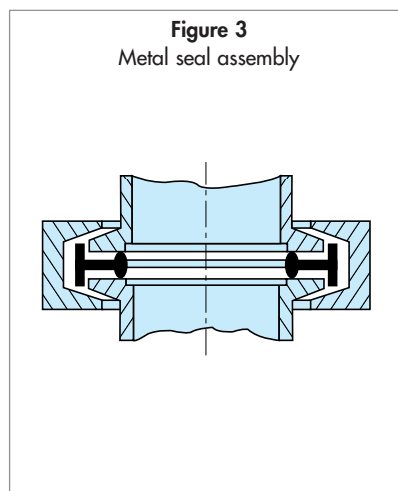
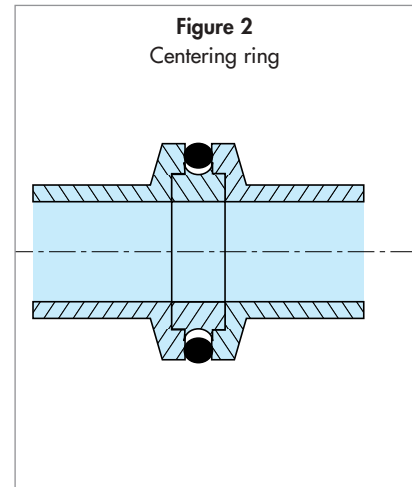
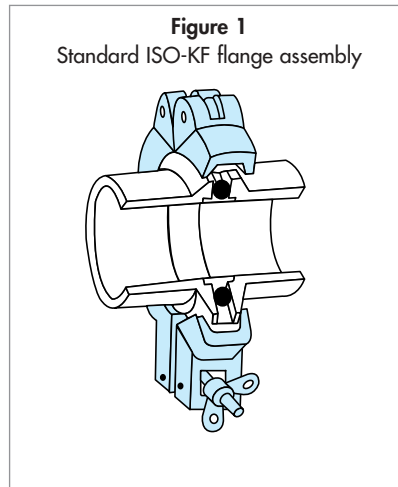
- Excellent roughing performance with low outgassing and excellent tightness
- Resistance to chemicals
- High mechanical strength

These components are coupled by a Macrovac centering ring with NBR O-ring and an aluminium clamp. This kind of connection can be baked to 80 °C.

Stainless steel series

Used in high vacuum, corrosive or high temperature applications, stainless steel flanges and fittings offer, according to the seal material, a large range of high performances:

- Use with NBR O-ring
 - Baked temperature: 80 °C
 - Pressure range: 10^7 mbar
- Use with FPM O-ring
 - Baked temperature: 150 °C
 - Pressure range: 10^7 mbar
- Use with metal seal
(Aluminium, Braided aluminium, Indium)
 - Baked temperature: 200 °C



- Pressure range: 10^9 mbar
- Maximum overpressure: 5 bars

Metallic seals involve the use of special clamps such as chains or half flanges without centering ring due to the metallic seal characteristics. (Fig. 3)

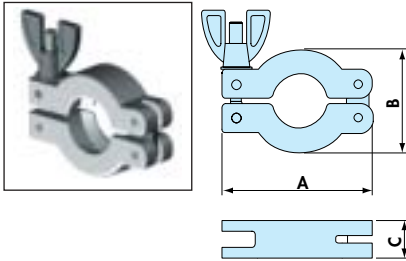
Connections between different diameters ISO-KF Flanges

10, 20 and 32 mm nominal diameter flanges have the same external dimensions as 16, 25 and 40 mm, so the 10/16, 20/25, 32/40 connections are very easy, using an adapter ring with the O-ring (Fig. 4). These connections are also very easy with a metallic seal because they are centered on the flange outside diameters.

For other different diameters, a conventional reducer must be used.

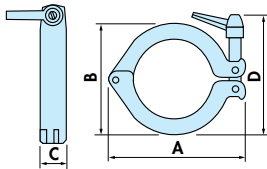
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Aluminium clamps



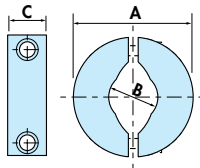
ISO-KF Flange DN	Dimensions mm			PART NUMBER Aluminium
	A	B	C	
10/16	61	45	16	083333
20/25	72	55	16	083264
32/40	90	70	16	083267
50	113	90	20	087163

Aluminium clamps with ratchet closure



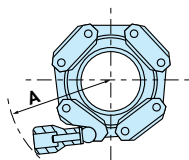
ISO-KF Flange DN	Dimensions mm				P/N Aluminium
	A	B	C	D	
10/16	61	45	16	77	303000
20/25	72	55	16	85	303001
32/40	90	70	16	90	303002
50	113	90	20	103	303003

Dual clamps for metallic seal



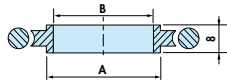
ISO-KF Flange DN	Dimensions mm			PART NUMBER S.S.
	A	B	C	
10/16	54	22	18	303350
20/25	64	32	18	303351
32/40	82	47	18	303352
50	110	62	20	303353

Aluminium chain clamps for metallic seal



ISO-KF Flange DN	Dimensions mm	PART NUMBER Aluminium
	A	
10/16	120	068380
20/25	130	068381
32/40	140	068382
50	155	068383

Centering rings with O-Ring

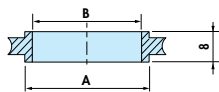


ISO-KF Flange DN	Dimensions mm		P/N	P/N	P/N
	A	B	304 S.S. NBR	304 S.S. FPM	MACROVAC/NBR
10	12	10	083332*	087165*	-
16	17	16	068193*	068228*	068599*
20	22	20.5	083263	087166	-
25	26	25	068189	068229	068600
32	34	32	083266	087167	-
40	41	40	068194	068230	068601
50	52	50	087164	087168	-

Set of 6 centering rings

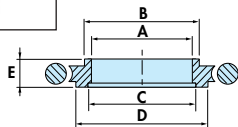
*: Set of 15 centering rings

Centering rings without O-Ring



ISO-KF Flange DN	Dimensions mm		P/N
	A	B	304 S.S.
16	17	16	068222
25	26	25	068224
40	41	40	068226
50	52	50	068227

Adapting centering rings with O-Rings



ISO-KF Flange DN	Dimensions mm					P/N	P/N
	A	B	C	D	E	304 S.S. NBR	304 S.S. FPM
10/16	10	12	16	17	8	068183*	068231
20/25	20	22	25	26	8	068184	068232
32/40	32	34	40	41	8	068173	068233

Set of 6 centering rings

*: Set of 15 centering rings

Metallic seals

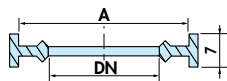


Figure 1

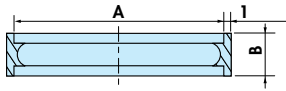


Figure 2

ISO-KF Flange DN	Dimensions mm	P/N	P/N
	A	Aluminium	Alu. reinforced
10/16	30	068602	068604
20/25	40	068261	068264
32/40	55	068260	068263
50	75	068603	068605
Figure		1	2

Aluminium outside centering rings

In addition to internal centering ring for max. working pressure of 10 bars



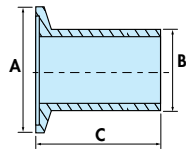
ISO-KF Flange DN	Dimensions mm		PART NUMBER Aluminium
	A	B	
10/16	30	7	066885
20/25	40	7	066886
32/40	55	7	066887
50	75	7	066888

Blank flanges



ISO-KF FLANGE DN	Dimensions mm		P/N 304 S.S.	P/N MACROVAC
	A	B		
10	30	5	083334	-
16	30	5	068195	068593
20	40	5	083265	-
25	40	5	068196	068594
32	55	5	083268	-
40	55	5	068197	068595
50	75	5	087162	-

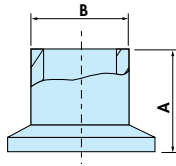
Long nipples



ISO-KF Flange DN Tubing ISO	Dimensions mm				P/N 304 S.S.	P/N MACROVAC
	A	B	C S.S.	C Macrovac		
10	30	14	30		087158	-
16	30	20	30	30	068215	068590
20	40	25	35		087159	-
25	40	28	30	35	068216	068591
32	55	38	40		087160	-
40	55	44,5	30	40	068217	068592
50	75	57	70		087161	-

ISO-KF Flange DN Tubing US	Dimensions mm			PART NUMBER 304 S.S.
	A	B	C	
10	30	12,7	40	303395
16	30	19	40	303396
25	40	25,4	40	303397
40	55	38,1	40	303398
50	75	50,8	40	303399

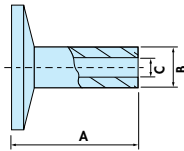
Stainless steel short weld nipples



ISO-KF Flange DN Tubing ISO	Dimensions mm		PART NUMBER 304 S.S.
	A	B	
16	11	17.2	068234
25	22.5	26.9	068235
40	18.5	42.4	068236
50	16	48.3	068896

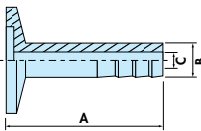
ISO-KF Flange DN Tubing US	Dimensions mm		PART NUMBER 304 S.S.
	A	B	
16	12.7	19.05	303400
25	12.7	25.4	303401
40	19.1	38.1	303402
50	19.1	50.8	303403

Stainless steel reducing nipples

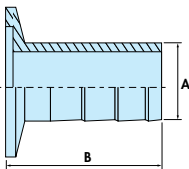


ISO-KF Flange DN	Dimensions mm			PART NUMBER S.S.
	A	B	C	
25	30	14	10	068311
40	30	14	10	068312
40	35	24	20	068313

Stainless steel ribbed nipples

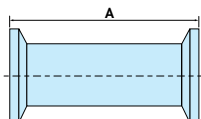


ISO-KF Flange DN	Dimensions mm			PART NUMBER 304 S.S.
	A	B	C	
16	40	11	7	068528
25	40	11	7	068529
40	40	11	7	068530
50	40	11	7	068531



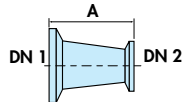
ISO-KF Flange DN	Dimensions mm		PART NUMBER 304 S.S.
	A	B	
16	19.1	40	305356
25	22.2	40	305357
40	41.3	40	305358
50	47.7	40	305359

Stainless steel full nipples

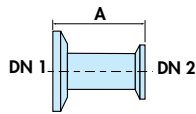


ISO-KF Flange DN	Dimensions mm	PART NUMBER 304 S.S.
	A	
16	80	303022
25	100	303023
40	130	303024
50	160	303025

Reducers



ISO-KF Flange DN 1-2	Dimensions mm A	P/N 304 S.S
25/16	40	303004
40/16	40	303018
40/25	40	303005
50/16	40	303019
50/25	40	303020
50/40	40	303021



ISO-KF Flange DN 1-2	Dimensions mm A	P/N 304 S.S	P/N MACROVAC
25/16	25	068250	068510
40/16	35	068251	-
40/25	37	068253	068509
50/16	40	303015	-
50/25	32	068254	-
50/40	45	068255	-

Elbows

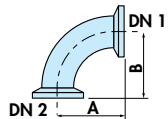


Figure 1

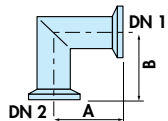
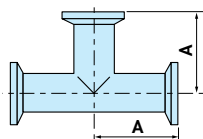


Figure 2

ISO-KF Flange DN 1 - DN 2	Dimensions mm		P/N 304 S.S	P/N MACROVAC
	A	B		
16/16	40	40	303026*	068575
25/25	50	50	303027*	068581
40/40	65	65	303028*	068587
50/50	80	80	068243*	-
25/16	50	40	068559	068578
40/25	65	50	068560	068584
50/40	70	65	068561	-

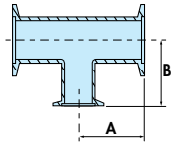
* Figure 1

Tees



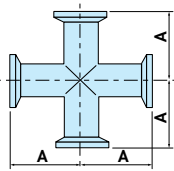
ISO-KF Flange	Dimensions mm A	PART NUMBER 304 S.S	PART NUMBER MACROVAC
10	30	303356	-
16	40	068562	068576
25	50	068563	068582
40	65	068564	068588
50	70	068565	-

Reducing tees



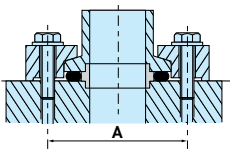
ISO-KF Flange	Dimensions mm		P/N 304 S.S.	P/N MACROVAC
	A	B		
25/25/16	50	40	068269	068579
40/40/16	65	40	303358	-
50/50/16	70	50	303359	-
40/40/25	65	50	068566	068585
50/50/25	70	65	068568	-
50/50/40	70	65	068567	-

Crosses



ISO-KF Flange DN	Dimensions mm A	PART NUMBER 304 S.S.	PART NUMBER MACROVAC
10	30	303357	-
16	40	068569	068577
25	50	068570	068583
40	65	068571	068589
50	70	068855	-

Flange to wall: stepped lugs and fasteners

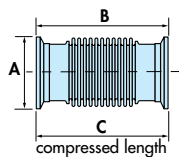


ISO-KF Flange DN	Dimensions mm			PART NUMBER Zamac
	Nb**	Bolt	A	
10	2	M6*20	43	053221*
16	2	M6*20	43	053221*
25	2 or 4	M6*20	53	053221*
40	4	M6*20	68	053221*
50	4	M6*20	88	053221*

* Set of 4 claws and M6 screws

** Nb: M6 holes

Flanged bellows

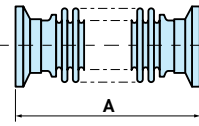


ISO-KF Flange DN	Dimensions mm			PART NUMBER 304 S.S.
	A	B	C	
16	30	100	80	303029
25	40	100	80	303030
40	55	100	80	303031
50	75	100	80	303032

B: Free length

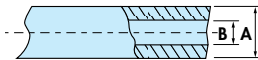
C: Compressed length

Flexibles S.S. flanged hoses



ISO-KF Flange DN	Dimensions mm		PART NUMBER 304 S.S.
	A		
10	250		303364
	500		303365
	1000		303366
16	250		068369
	500		303367
	1000		068278
25	250		068370
	500		068371
	1000		068372
40	250		068373
	500		068374
	1000		068375
50	250		068376
	500		068377
	1000		068378

Reinforced plastic tubes (PVC)



ISO-KF Flange DN	Dimensions mm		PART NUMBER for 1 m length	PART NUMBER Code for length > 1 m
	A	B		
16	23	16	303386	30338*
25	33	25	303388	30340*
40	53	40	303390	30342*
50	65	50	303391	30343*

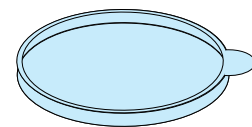
Table of available lengths

Length	2 m	4 m	6 m	8 m	10 m
Index	A	C	E	G	J

* Specify when ordering the corresponding index according to the appropriate length.
(for example: DN 16 with 4 m length, P/N 30338C).
Multiply the price for 1 meter by the appropriate length.

Raised protective caps for ISO-KF flanges

ISO-KF Flange DN	P/N 1 unit
10/16	068003
20/25	068000
32/40	068001
50	068002

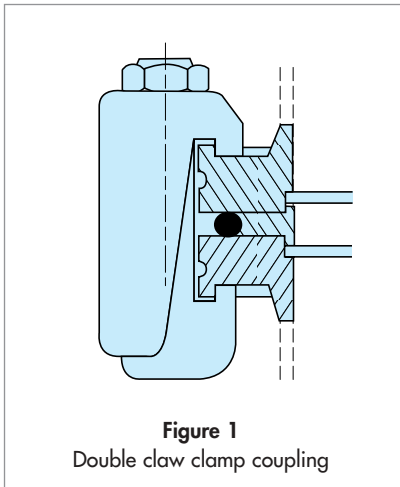


ISO-K Flanges and Fittings

High conductance connections

The Adixen ISO-K flanges and fittings range includes 6 diameters from DN 63 to DN 250.

- High conductance
- Easy assembling
- 360° orientability
- Baked to 80 or 150 °C

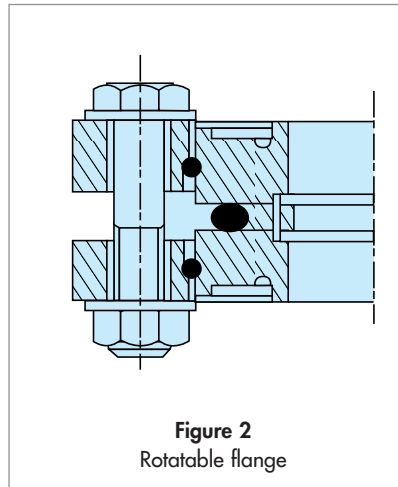


Double claw clamp connection

Perfectly tight in the 10⁷ mbar pressure range, the double claw clamp ISO-K connection includes, two of the same nominal diameter flanges, one centering ring with O-ring, and according to the nominal diameter, 4 or 6 double claw clamps (Fig. 1).

Rotatable flange connection

Including two ISO-K flanges coupled together by two rotatable flanges with retaining ring, a centering ring with O-ring and, a bolts set, this kind of connection allows an easy angular orientation (Fig. 2).



ISO-K Flanges and Fittings

Made of stainless steel, the Adixen ISO-K component range includes weld flanges, elbows, tees, 4-way crosses, nipples... These accessories are available in 2 types: one with ISO entre-axe and metric tubing, the other with the US Standard entre-axe and tubing.

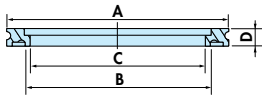
According to the seal material, the ISO-K coupling provides the following performances:

- Use with Buna-R O-ring
 - Baked temperature: 80 °C
 - Pressure range: 10⁷ mbar
- Use with FPM O-ring
 - Baked temperature: 150 °C
 - Pressure range: 10⁸ mbar

Notes

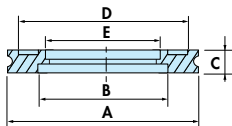
Alcatel has chosen to offer the main ISO-K standard components. For further details, please consult us.

Stainless steel weldable flanges for ISO tubes



ISO-K Flange DN	Dimensions mm				PART NUMBER 304 S.S.
	A	B	C	D	
63	95	76	72	12	068214
80	110	84	80	12	068005
100	130	104	100	12	068351
160	180	154	150	12	068006
200	240	219	213	12	068007
250	290	273	267	12	068329

Stainless steel weldable flanges for US tubes



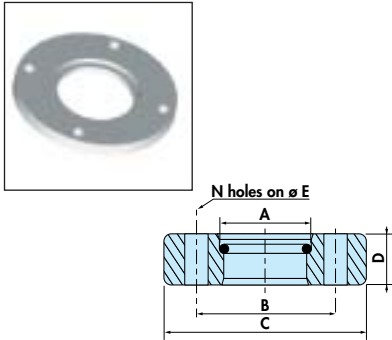
ISO-K Flange DN	Dimensions mm					PART NUMBER 304 S.S.
	A	B	C	D	E	
63	95	70	12	90	63.7	303033
80	110	83	12	105	76.4	303034
100	130	102	12	125	101.8	303035
160	180	153	12	175	152.9	303036
200	240	213	12	235	203.7	303037
250	290	261	12	285	254.5	303038

Stainless steel blank flanges



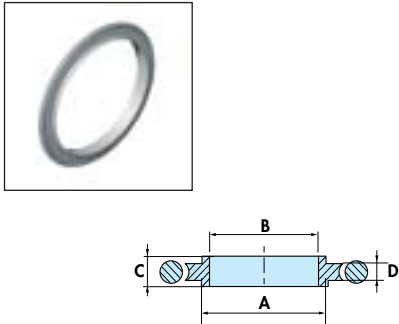
ISO-K Flange DN	Dimensions mm		PART NUMBER 304 S.S.
	A	B	
63	95	12	068285
80	110	12	068046
100	130	12	068350
160	180	12	068047
200	240	12	068048
250	290	12	068327

Stainless steel rotatable flanges with retaining ring



ISO-K Flange DN	Dimensions mm					Holes on \varnothing E	PART NUM- BER 304 S.S.
	A	B	C	D	E	N	
63	98.5	110	130	12	9	4	068420
80	113.5	125	145	12	9	8	068087
100	133.5	145	165	12	9	8	068348
160	185.7	200	225	16	11	8	068088
200	245.7	260	285	16	11	12	068089
250	295.7	310	335	16	11	12	068320

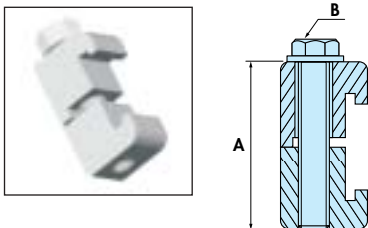
Centering rings with O-Ring



ISO-K Flange DN	Dimensions mm				P/N	P/N
	A	B	C	D	304 S.S. NBR	304 S.S. FPM
63	70	68	8	4	068096*	068432*
80	83	81	8	4	068092*	068185*
100	102	100	8	4	068433	068349
160	152	144	14	5.6	068093	068186
200	212	204	14	5.6	068094	068187
250	260	254	12	5.6	068323	068330

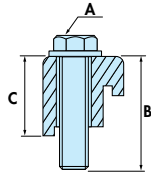
*: Set of 2 centering rings

Double claw clamps



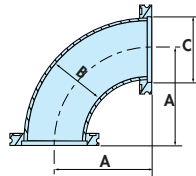
ISO-K Flange DN	Dimensions mm		PART NUMBER 1 unit - Aluminium
	A	B	
63 - 100	45	M8	303056
160 - 250	45	M10	303057

Single claw clamps



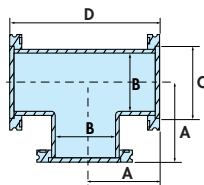
ISO-K Flange DN	Dimensions mm			P/N 1 unit Aluminium
	A	B	C	
63	M8	35	23.5	303410
80	M8	35	23.5	303410
100	M8	35	23.5	303410
160	M10	35	23.5	303411
200	M10	35	23.5	303411
250	M10	35	23.5	303411

Stainless steel elbows



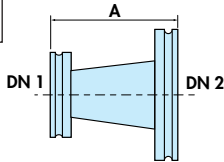
ISO-K Flange DN	Dimensions mm			PART NUMBER 304 S.S.
	A	B	C	
63	138.4	63.5	95	303058
80	141.5	76.2	110	303060
100	217.7	101.6	130	303062
160	235.2	152.4	180	303064

Stainless steel tees



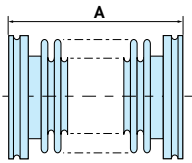
ISO-K Flange DN	Dimensions mm				PART NUMBER 304 S.S.
	A	B	C	D	
63	82.8	63.5	95	165.6	303070
80	89.15	76.2	110	178.3	303072
100	105	101.6	130	210	303074
160	133.6	152.4	180	267.2	303076

Conical reducers



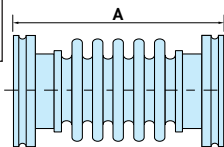
ISO-K flange DN 1 - DN 2	Dimensions mm A	P/N 304 S.S.	Dimensions mm A	P/N Aluminium
63/80	63	303094	-	-
63/100	63	303095	65	062902
80/100	63	303096	-	-
100/160	241	303097	80	062906
160/200	80	062910	80	062908
200/250			70	066659

Stainless steel flexible pipelines



ISO-K Flange DN	Dimensions mm A	PART NUMBER 304 S.S.
63	250	303372
	500	303373
	1000	303374
100	250	303375
	500	303376
	1000	303377
160	250	303378
	500	303379
	1000	303380

Stainless steel compressible bellows



ISO-K Flange DN	Dimensions mm A	PART NUMBER 304 S.S.
63	140	303381
80	160	068022
100	120	068354
160	220	068023
200	230	068024
250	260	068328

CF Flanges and Fittings

From atmosphere to 10^{-13} mbar

Adixen Ultra High Vacuum component range is based on the CF "Conflat®" standard which uses a copper gasket compressed between the knife edges of CF Flanges (Fig. 1).

Due to this principle, the CF coupling ensures perfect tightness to 10^{-13} mbar. In this pressure range, there is not any leak detectable on mass spectrometer with sensitivity of $2 \cdot 10^{-10}$ mbar.l/s (std cc/sec).

Adixen's range of Flanges and Fittings

Alcatel offers 7 nominal diameters from 16 to 250 mm ($1^{5/16}$ " to 12") often used in ultra high vacuum applications.

Rotatable flange coupling

Alcatel offers CF flanges in rotatable as well as non-rotatable versions. The rotatable version allows better mounting with an easier angular orientation of the component.

Easier mounting

In addition to the thru-hole flanges, ALCATEL offers tapped-hole flanges in order to avoid a large number of nuts and washers.

These tapped-hole flanges are available with metric or US Standard tapping. Moreover, to simplify the customer purchase, Alcatel offers nut and bolt sets for each kind of coupling (Fig. 2).

Baking temperature

Including stainless steel flanges and copper seal, a Ultra High Vacuum CF coupling can be baked to 450 °C.

Notes

Alcatel has chosen to offer the main CF standard components. For further details, please consult us.

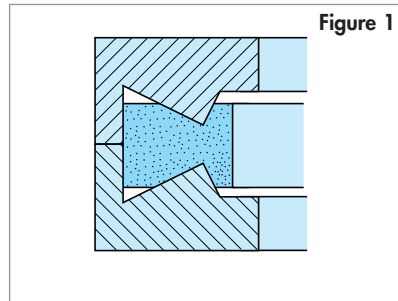


Figure 1

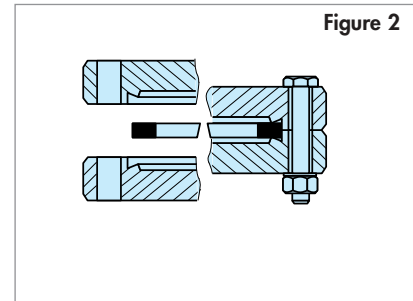


Figure 2

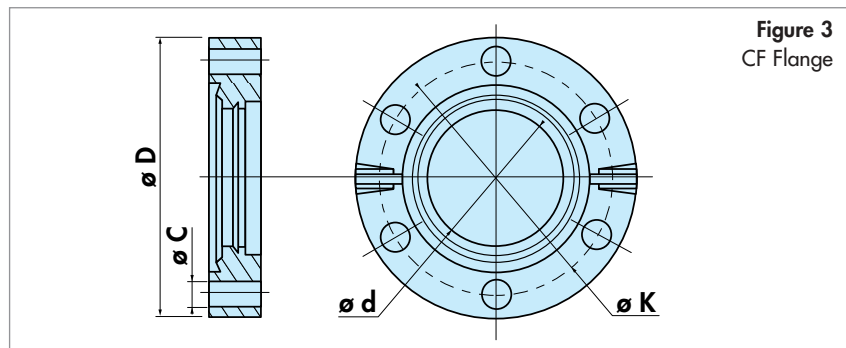


Figure 3
CF Flange

CF flanges dimensions

Adixen CF flanges and fittings are compatible with other Conflat® style flanges used by all other suppliers of the vacuum industry (Fig. 3).

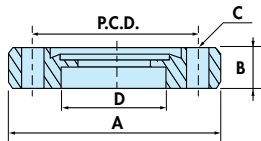
DN	16 CF	40 CF	63 CF	100 CF	160 CF	200 CF	250 CF
Diameter D (inch)	1 ^{5/16} "	2 ^{3/4} "	4 ^{1/2} "	6"	8"	10"	12"
Diameter D (mm)	33.8	69.4	113.5	151.6	202.4	253.2	304
Diameter d (inch)	5/8"	1 ^{3/8} "	2 ^{1/2} "	4"	6"	8"	10"
Diameter d (mm)	16	35	63	100	150	200	250
Diameter K (inch)	1.062	2.312	3.628	5.128	7.128	9.128	11.18
Diameter K (mm)	27	58.7	92.2	130.3	181.1	231.9	284
Number of holes	6	6	8	16	20	24	32
Diameter C (inch)	0.172	0.265	0.332	0.332	0.332	0.332	0.332
Diameter C (mm)	4.4	6.7	8.4	8.4	8.4	8.4	8.4
Metric tapped	M4x0.7	M6x1	M8x1.25	M8x1.25	M8x1.25	M8x1.25	M8x1.25
U.S. tapped.	8-32	25-28	5/16-24	5/16-24	5/16-24	5/16-24	5/16-24

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Nominal diameters DN 40 CF and DN 160 CF correspond to ISO 3669 standard (Pneurop 6606).

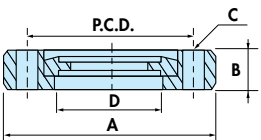
Dimensions are identical with former DN 35 CF and DN 150 CF.

Non rotatable flanges (CF-F)



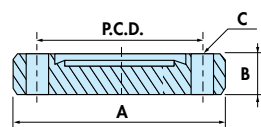
CF-F Flange DN	Dimensions mm					P/N	P/N
	A	B	C* N°	D	P.C.D.	thru holes 304 S.S.	metric tapped 304 S.S.
16	33.8	7.5	4.4 - M4 (6)	19.3	26.9	303120	303134
40	69.5	12.7	6.7 - M6 (6)	38.3	58.7	303122	303136
63	113.6	18	8.4 - M8 (8)	63.7	92.1	303124	303138
100	151.6	20	8.4 - M8 (16)	101.8	130.3	303126	303140
160	202.5	22	8.4 - M8 (20)	153.1	181	303128	303142
200	253.2	24.7	8.4 - M8 (24)	203.7	231.8	303130	303144
250	336.5	28.5	10.3 - M10 (30)	254.5	306.5	303132	303146

Rotatable flanges (CF-R)



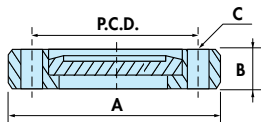
CF-R Flange DN	Dimensions mm					P/N	P/N
	A	B	C* N°	D	P.C.D.	thru holes 304 S.S.	metric tapped 304 S.S.
16	33.8	7.1	4.4 - M4 (6)	19.2	26.9	303121	303135
40	69.5	12.7	6.7 - M6 (6)	38.3	58.7	303123	303137
63	113.6	19	8.4 - M8 (8)	63.7	92.1	303125	303139
100	151.6	21.5	8.4 - M8 (16)	101.8	130.3	303127	303141
160	202.5	24	8.4 - M8 (20)	153.1	181	303129	303143
200	253.2	24.7	8.4 - M8 (24)	203.7	231.8	303131	303145
250	336.5	28.5	10.3 - M10 (30)	254.5	306.5	303133	303147

Non rotatable blank flanges (CF-F)



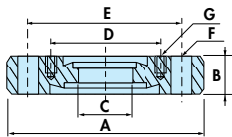
CF-F Flange DN	Dimensions mm				P/N	P/N
	A	B	C* N°	P.C.D.	thru holes 304 S.S.	metric tapped 304 S.S.
16	33.8	7.5	4.4 - M4 (6)	26.9	303162	303176
40	69.5	12.7	6.7 - M6 (6)	58.7	303164	303178
63	113.6	18	8.4 - M8 (8)	92.1	303166	303180
100	151.6	20	8.4 - M8 (16)	130.3	303168	303182
160	202.5	22	8.4 - M8 (20)	181	303170	303184
200	253.2	24.7	8.4 - M8 (24)	231.8	303172	303186
250	336.5	28.5	10.3 - M10 (30)	306.5	303174	303188

Rotatable blank flanges (CF-R)



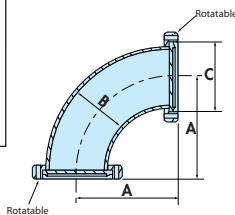
CF-R Flange DN	Dimensions mm				P/N thru holes 304 S.S.	P/N metric tapped 304 S.S.
	A	B	C* N°	P.C.D.		
16	33.8	7.5	4.4 - M4 (6)	26.9	303163	303177
40	69.5	12.7	6.7 - M6 (6)	58.7	303165	303179
63	113.6	19	8.4 - M8 (8)	92.1	303167	303181
100	151.6	21.5	8.4 - M8 (16)	130.3	303169	303183
160	202.5	24	8.4 - M8 (20)	181	303171	303185
200	253.2	24.7	8.4 - M8 (24)	231.8	303173	303187
250	336.5	28.5	10.3 - M10 (30)	306.5	303175	303189

Reducing flanges



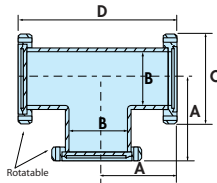
CF-F Flange	Dimensions mm							P/N 304 S.S.
	A	B	C	D	E	F* N°	G* N°	
40/16	69.5	12.7	15.8	26.9	58.7	6.7*6	M4*6	303215
63/40	113.6	18	38.1	58.7	92.1	8.4*8	M6*6	303216
100/40	151.6	20	38.1	58.7	130.3	8.4*16	M6*6	303217
100/63	151.6	20	63.5	92.1	130.3	8.4*16	M8*8	303218
160/40	202.5	22	38.1	58.7	181	8.4*20	M6*6	303219
160/63	202.5	22	63.5	92.1	181	8.4*20	M8*8	303220
160/100	202.5	22	101.6	130.3	181	8.4*20	M8*16	303221
200/40	253.2	24.7	38.1	58.7	231.8	8.4*24	M6*6	303222
200/100	253.2	24.7	101.6	130.3	231.8	8.4*24	M8*16	303223
200/160	253.2	24.7	152.4	181	231.8	8.4*24	M8*20	303224
250/200	336.5	28.5	203.2	231.8	306.5	10.3*30	M8*24	303225

Elbows - Rotatable



CF-R Flange DN	Dimensions mm			PART NUMBER 304 S.S.
	A	B	C	
16	42.7	19.05	33.8	303243
40	79.9	38.1	69.5	303244
63	141.3	63.5	113.6	303245
100	222.2	101.6	151.6	303246

Tees-2 Rotatable Flanges



CF-F/CF-R Flange DN	Dimensions mm				PART NUMBER 304 S.S.
	A	B	C	D	
16	47.2	19.05	33.8	94.4	303249
40	62.5	38.1	69.5	125	303250
63	85.7	63.5	113.6	171.4	303251
100	109.5	101.6	151.6	219	303252

Reducers - Rotatable

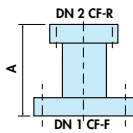


Figure 1

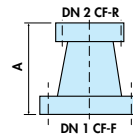
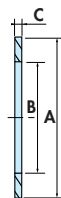


Figure 2

CF Flange DN 1 - DN 2	Dimensions mm A	PART NUMBER 304 S.S.	Dimensions mm A	PART NUMBER 304 S.S.
40/16	76.2	303261	-	-
63/40	76.2	303262	-	-
100/40	76.2	303263	-	-
100/63	76.2	303264	-	-
160/100	76.2	303265	122	062903
200/160	120.6	303266	-	-
250/200	-	-	127	066660
Figure		1		2

Copper gaskets



CF Flange DN	Dimensions mm			PART NUMBER pack of 10*	PART NUMBER pack of 1*
	A	B	C		
16	21	16	2	303288	-
40	48	37	2	303289	-
63	82	63	2	303290	-
100	120	101	2	303291	-
160	171	152	2	303292	-
200	222	203	2	303293	-
250	294	269	2	-	303294

* Individually sealed

Nut and bolts sets

Metric thread

CF Flange DN	Number of holes	Metric thread	PART NUMBER Set for thru hole flanges*	PART NUMBER Set for tapped hole flanges**
16	6	M4 x 0.7	303414	303420
40	6	M6 x 1	303415	303421
63	8	M8 x 1.25	303416	303422
100 CF-F Non-rotatable	16	M8 x 1.25	303417	303422
100 CF-R Rotatable	16	M8 x 1.25	303417	303422
160	20	M8 x 1.25	303418	303423
200	24	M8 x 1.25	303418	303423
250	32	M8 x 1.25	303419	303337

* Includes nuts, bolts and washers.

** Includes bolts and washers only.

Inter-standard adapters

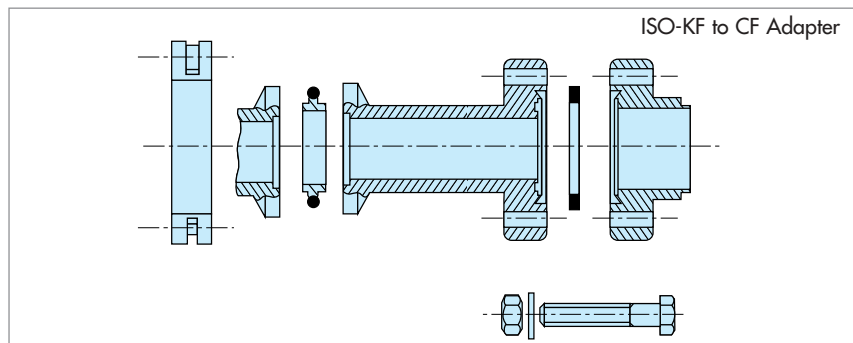
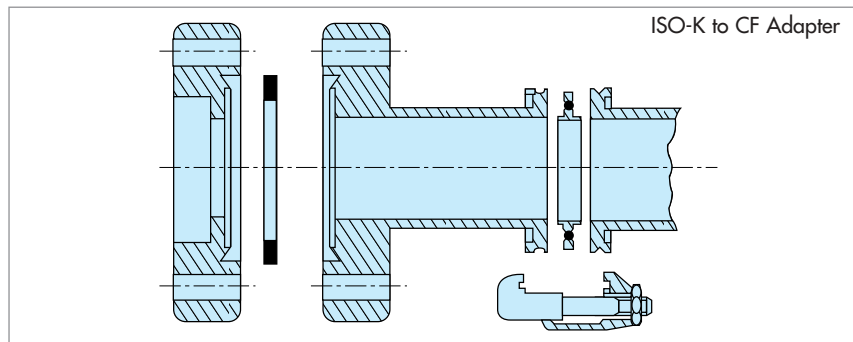
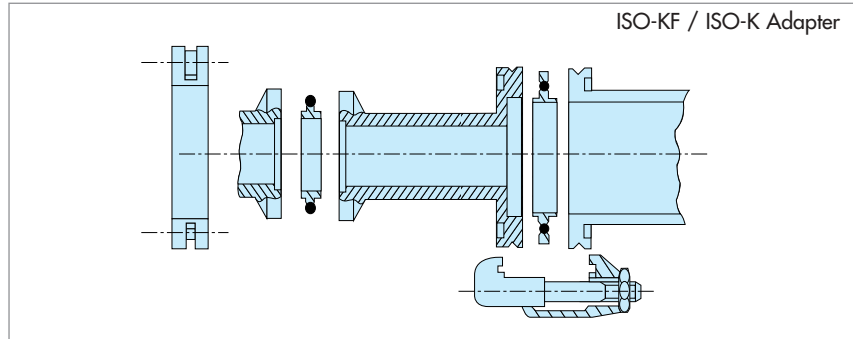
Allowing all kinds of coupling

Some peripheral accessories used in vacuum industry are not available in all standards. Due to this, Alcatel Vacuum Technology offers special adapters from one standard to another.

ISO-KF to ISO-K Adapters

These stainless steel accessories allow high performance coupling. The pressure range and the baked temperature depend on the seal used for one of the two coupling.

- Use of one buna-R seal with another Buna-R, FPM or metallic seal:
 - Pressure range: 10^7 mbar
 - Baked temperature: 80 °C
- Use of one FPM seal with another FPM or metallic seal:
 - Pressure range: 10^7 mbar
 - Baked temperature 200 °C



Adapters ISO-KF / CF

The adapters performances depend on the seal material used for the ISO-KF coupling:

- Use of a NBR seal:
 - Pressure range: 10^7 mbar
 - Baked temperature: 80 °C
- Use of a FPM seal:
 - Pressure range: 10^7 mbar
 - Baked temperature 200 °C
- Use of a metallic seal:
 - Pressure range: 10^7 mbar
 - Baked temperature 200 °C

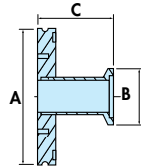
For an ultra-high vacuum application, a metallic seal ISO-KF coupling is advised.

ISO-K to CF Adapters

CF couplings have higher performances, so it is the ISO-K coupling which limits these adapters. According to the seal material, the performances will be the following:

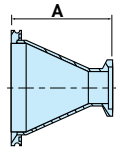
- Use with a NBR seal:
 - Pressure range: 10^7 mbar
 - Baked temperature 80 °C
- Use with a FPM seal:
 - Pressure range: 10^7 mbar
 - Baked temperature: 150 °C

ISO-KF/ISO-K tubulated adapters



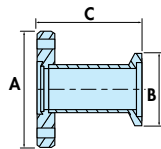
ISO K Flange DN	ISO-KF Flange DN	Dimensions mm			PART NUMBER 304 S.S.
		A	B	C	
63	25	95	40	42	303316
63	40	95	55	42	303317
63	50	95	75	42	303318
80	40	110	55	42	303319
80	50	110	75	42	303320
100	40	130	55	42	303321
100	50	130	75	42	303322

ISO-KF/ISO-K conical adapters



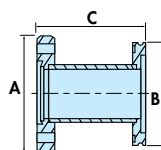
ISO K Flange DN	ISO-KF Flange DN	Dimensions mm A (SS)	PART NUMBER S.S.	Dimensions mm A (Al)	PART NUMBER A (Al)
63	25	50	303384	52	063268
63	40	72.4	303323	52	063269
63	50	72.4	303324	57	063270
80	40	63	303412		-
80	50	63	303413		-
100	40	61	068912	52	062900
100	50	52	068911	52	062901
160	50			80	062904

ISO-KF/CF adapters



CF-F Flange DN	ISO-KF Flange DN	Dimensions mm			PART NUMBER S.S.
		A	B	C	
16	16	33.8	30	43	303325
16	40	33.8	55	39.9	303326
16	50	33.8	75	50.8	303327
40	16	69.5	30	45.3	303328
40	25	69.5	40	45.3	303329
40	40	69.5	55	45.3	303330
63	40	113.6	55	50.8	303331
63	50	113.6	75	49.5	303332
100	40	151.6	55	55	303385

ISO-K/CF adapters



CF-F Flange DN	ISO-K Flange DN	Dimensions mm			PART NUMBER 304 S.S.
		A	B	C	
63	63	113.6	95	90	303333
100	100	151.6	130	90	303334
160	160	202.5	180	90	303335
200	200	253.2	240	108	303336