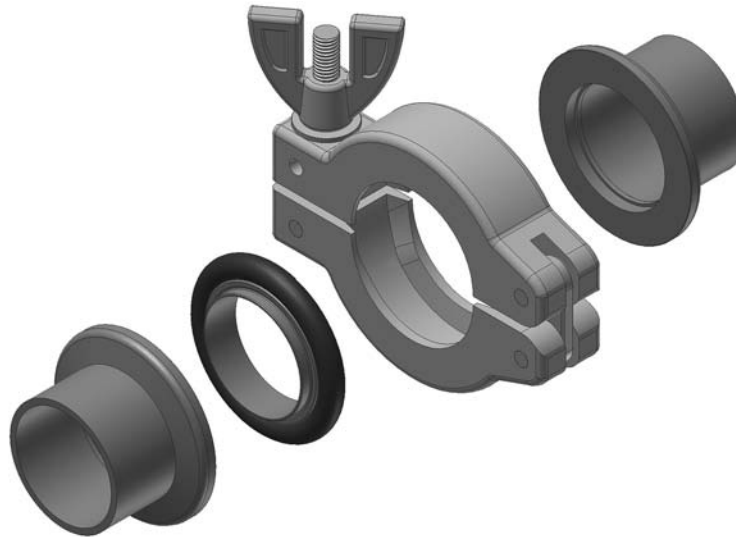


Introduction

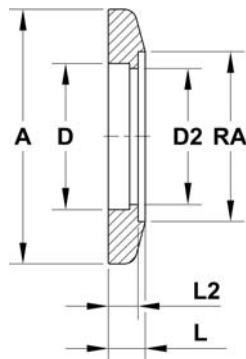
The Small flange or KF standard (DIN 28403, ISO 2961) is the standard connection for vacuum pipes up to the nominal diameter of DN50 used in low, fine and high vacuum. The connection between two flanges is shown in the following figure:



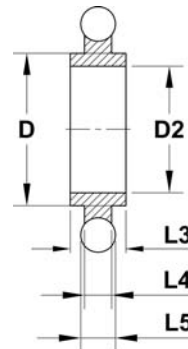
Functional principle

A seal is positioned between the flanges. The seal consists of a centering ring and the O-ring stretched upon. The flanges are held together by a clamp. The clamp has an inclined interior surface adequate to the conical outer surface of the flanges.

Usually centering rings and standard clamps are used with wing nuts. They enable a quick and easy assembly without any tools. Trapped centering rings and special clamps or clamp chains are offered for special applications. Claw clamps or so-called bulkhead clamps are available for wall mounting.



KF flange



KF centering ring

Dimensions of KF flanges / KF centering rings

Dimension	DN10	DN16	DN25	DN40	DN50
A	30.0	30.0	40.0	55.0	75.0
D	12.2	17.2	26.2	41.2	52.2
D2	10.0	16.0	25.0	40.0	50.0
RA	14.0	19.0	28.0	41.0	53.0
L	5.1	4.5	4.6	4.4	5.4
L2	3.5	3.5	3.5	3.5	4.5

Introduction

1

Materials

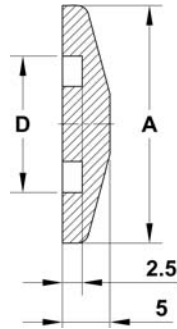
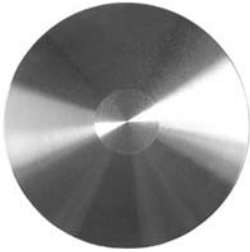
Seals	Flanges	Components
NBR (O-ring)	aluminium	aluminium
FKM (O-ring)	stainless steel 1.4301	stainless steel 1.4301
PTFE (edge seal)	stainless steel 1.4305	stainless steel 1.4305
PTFE (centering ring / trapped centering ring)	stainless steel 1.4404	stainless steel 1.4404
aluminium (edge seal)		stainless steel 1.4435
aluminium (centering ring / trapped centering ring)		stainless steel 1.4541
stainless steel 1.4301 (centering ring)		stainless steel 1.4571
stainless steel 1.4404 (centering ring)		

Fields of application

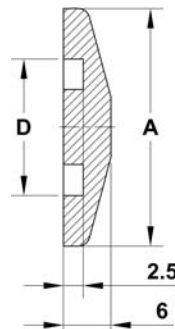
Materials components and seals	Pressure range (mbar - bar)	Leak rate (mbar l / s)	Recommended centering ring	Recommended connecting element
aluminium with elastomer seal	1.0E-7 to 1.5 1.0E-7 to 1.5	1.0E-8	inside outside	standard clamp clamp chain
stainless steel with elastomer seal	1.0E-8 to 1.5 1.0E-8 to 1.5	1.0E-9	inside outside	standard clamp clamp chain
stainless steel with metal seal	1.0E-9 to 1.5	< 1.0E-9	outside	clamp chain or special clamp

KF Flanges

KF Blank flanges



aluminium

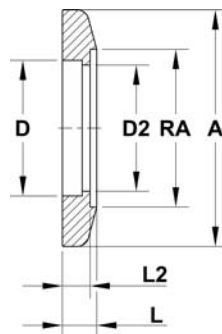


stainless steel

Order code			DN	A	D
Aluminium	Stainless steel 304*	Stainless steel 316L*			
KF16BA	KF16BS-304	KF16BS-316	16	30	17.2
KF25BA	KF25BS-304	KF25BS-316	25	40	26.2
KF40BA	KF40BS-304	KF40BS-316	40	55	41.2
KF50BA	KF50BS-304	KF50BS-316	50	75	52.2

* For clean room compatible packaging please add "-CRP" to the order code

KF Bored flanges, stainless steel



Order code		DN	A	D	L	RA	L2	D2
Stainless steel 304	Stainless steel 316L							
KF16B19-304	KF16B19-316	16	30	17.2	4.5	19	3.5	16
-	KF16B20-316	16	30	17.2	4.3	20	3.5	16
KF25B28-304	KF25B28-316	25	40	26.2	4.6	28	3.5	25
KF40B41-304	KF40B41-316	40	55	41.2	4.9	41	3.5	40
KF50B53-304	KF50B53-316	50	75	52.2	5.9	53	4.5	50
KF40B44-304	KF40B44-316	40	55	41.2	4.4	44.5	3.5	40
KF50B57-304	KF50B57-316	50	75	52.2	5.4	57	4.5	52

● For clean room compatible packaging please add "-CRP" to the order code

KF Flanges

1

KF Flange caps, plastics

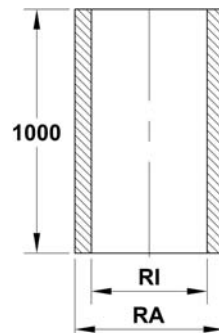


Order code	DN
KF16CAP	16
KF25CAP	25
KF40CAP	40
KF50CAP	50

- Packing unit 10 pieces

KF Fittings

KF Tube, 1 m length, stainless steel



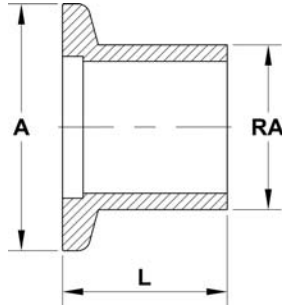
Technical data

- Lengthwise welded
- Outside and inside etched
- DIN 11850
- Ra <math>< 0.8 \mu\text{m}</math>
- Ra (welding seam area) <math>< 1.6 \mu\text{m}</math>

Order code		DN	RA	RI
St. steel 304	St. steel 316L			
R304-19x1.5-1	R316-19x1.5-1	16	19	16
R304-28x1.5-1	R316-28x1.5-1	25	28	25
R304-41x1.5-1	R316-41x1.5-1	40	41	38
R304-53x1.5-1	R316-53x1.5-1	50	53	50

KF Fittings

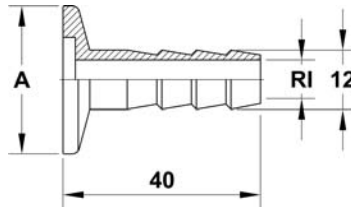
KF Tubulations (half nipples), stainless steel



Order code		DN	A	L	RA
St. steel 304	St. steel 316L				
TU16K13-19-304	-	16	30	13	19
TU16K20-304	TU16K20-316	16	30	20	20
TU16K30-304	TU16K30-316	16	30	30	20
-	TU16K70-316	16	30	40	20
TU16K70-304	TU16K70-316	16	30	70	20
TU25K13-25-304	-	25	40	13	25
TU25K20-304	TU25K20-316	25	40	20	28
TU25K30-304	TU25K30-316	25	40	30	28
-	TU16K40-316	25	40	40	28
TU25K70-304	TU25K70-316	25	40	70	28
TU40K19-38-304	-	40	55	19	38
TU40K20-304	TU40K20-316	40	55	20	44.5
TU40K30-304	TU40K30-316	40	55	30	44.5
-	TU25K40-316	40	55	40	44.5
TU40K70-304	TU40K70-316	40	55	70	44.5
TU50K19-51-304	-	50	75	19	51
TU50K20-304	TU50K20-316	50	75	20	57
TU50K30-304	TU50K30-316	50	75	30	57
-	TU25K70-316	50	75	40	57
TU50K70-304	TU50K70-316	50	75	70	57

- For clean room compatible packaging please add "-CRP" to the order code

KF Hose nozzles, aluminium

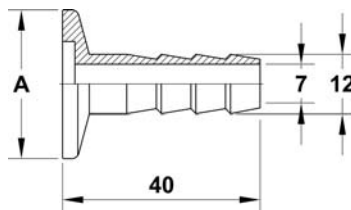


Technical data

- Hose ID 10 mm

Order code	DN	A	RI
KF16HNA	16	30	7
KF25HNA	25	40	7
KF40HNA	40	55	7
KF50HNA	50	75	8

KF Hose nozzles, stainless steel



Technical data

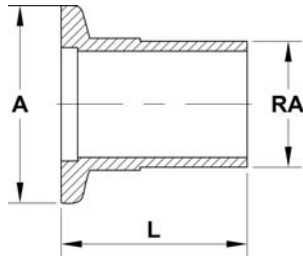
- Hose ID 10 mm

Order code	DN	A
KF16HNS	16	30
KF25HNS	25	40
KF40HNS	40	55
KF50HNS	50	75

KF Fittings

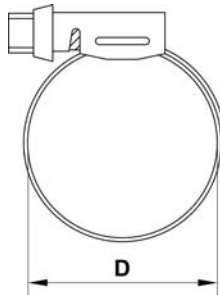
1

KF Tubulations for PVC hose, stainless steel



Order code	DN	A	RA	L
KF16TUH	16	30	19	32
KF25TUH	25	40	25	38
KF40TUH	40	55	38	50
KF50TUH	50	75	51	55

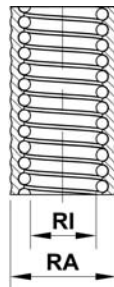
KF Hose clamps for PVC hose



Order code	DN	D
KF16HC	16	25
KF25HC	25	36
KF40HC	40	50
KF50HC	50	60

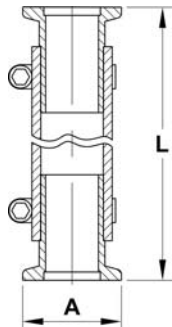
- D = max. hose diameter

KF Hoses, wire reinforced PVC, per metre



Order code	DN	RA	RI
PVC16	16	26	19
PVC25	25	33	25
PVC40	40	47	38
PVC50	50	60	50

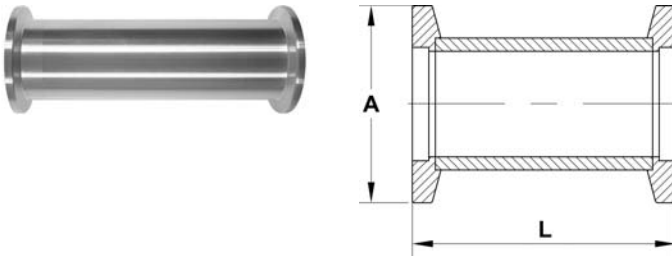
KF Hose connectors, PVC, stainless steel



Order code	DN	A	L
KF16PVC25	16	30	250
KF16PVC50	16	30	500
KF16PVC100	16	30	1000
KF25PVC25	25	40	250
KF25PVC50	25	40	500
KF25PVC100	25	40	1000
KF40PVC25	40	55	250
KF40PVC50	40	55	500
KF40PVC100	40	55	1000
KF50PVC25	50	75	250
KF50PVC50	50	75	500
KF50PVC100	50	75	1000

KF Fittings

KF Straight connectors (full nipples)

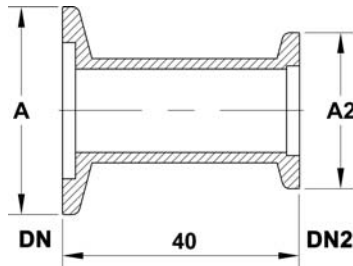


Order code			DN	A	L
Aluminium	Stainless steel 304*	Stainless steel 316L*			
SC16KA	SC16K-304	SC16K-316	16	30	80
SC25KA	SC25K-304	SC25K-316	25	40	100
SC40KA	SC40K-304	SC40K-316	40	55	130
-	SC50K-304	SC50K-316	50	75	130

* For clean room compatible packaging please add "-CRP" to the order code

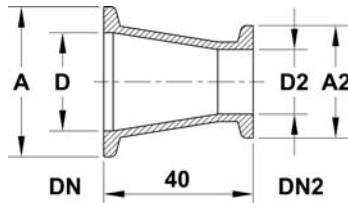
- Special lengths on request

KF Tubulated reducing adapters, aluminium



Order code	DN	DN2	A	A2
KF25R16A-40	25	16	40	30
KF40R16A-40	40	16	55	30
KF40R25A-40	40	25	55	40
KF50R40A-40	50	40	75	55

KF Tubulated reducing adapters, conical, stainless steel



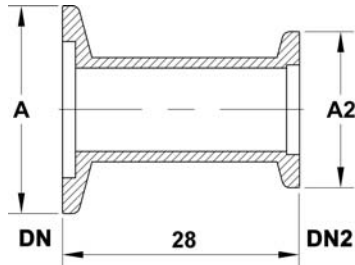
Order code		DN	DN2	A	A2	D	D2
Stainless steel 304	Stainless steel 316L						
KF25R16/CO-304	KF25R16/CO-316	25	16	40	30	26	17
KF40R16/CO-304	KF40R16/CO-316	40	16	55	30	41	17
KF40R25/CO-304	KF40R25/CO-316	40	25	55	40	41	26
KF50R25/CO-304	KF50R25/CO-316	50	25	75	40	52	26
KF50R40/CO-304	KF50R40/CO-316	50	40	75	55	52	41

- For clean room compatible packaging please add "-CRP" to the order code

KF Fittings

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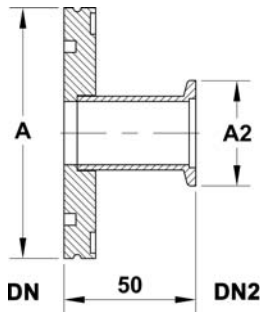
KF Tubulated reducing adapters, stainless steel



Order code		DN	DN2	A	A2
St. steel 304	St. steel 316L				
KF25R16-304	KF25R16-316	25	16	40	30
KF40R16-304	KF40R16-316	40	16	55	30
KF40R25-304	KF40R25-316	40	25	55	40
KF50R25-304	KF50R25-316	50	25	75	40
KF50R40-304	KF50R40-316	50	40	75	55

- For clean room compatible packaging please add "-CRP" to the order code

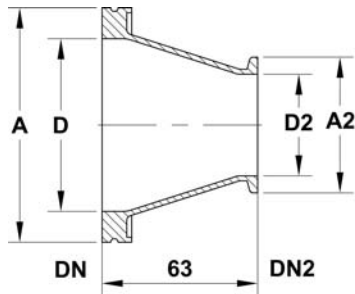
KF to ISO-K Adapters, stainless steel



Order code		DN	DN2	A	A2
St. steel 304	St. steel 316L				
SK6325-304	SK6325-316	63	25	95	40
SK6340-304	SK6340-316	63	40	95	55
SK6350-304	SK6350-316	63	50	95	75
SK1040-304	SK1040-316	100	40	130	55

- Other adapters on request
- For clean room compatible packaging please add "-CRP" to the order code

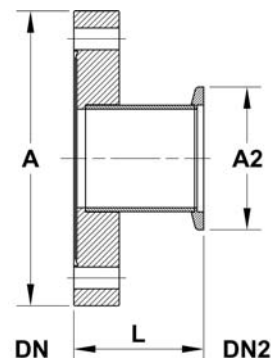
KF to ISO-K Adapters, conical, stainless steel



Order code	DN	DN2	A	A2	D	D2
SK6340/CO	63	40	95	55	70	41
SK6350/CO	63	50	95	75	70	52
SK8040/CO	80	40	110	55	83	41
SK8050/CO	80	50	110	75	83	52
SK1040/CO	100	40	130	55	102	41
SK1050/CO	100	50	130	75	102	52

- For clean room compatible packaging please add "-CRP" to the order code

KF to CF Adapters, stainless steel

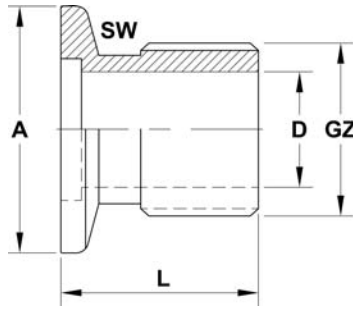


Order code	DN	DN2	A	A2	L
KA1616	16	16	34	30	36
KA3516	35	16	70	30	36
KA3525	35	25	70	40	36
KA3540	35	40	70	55	50
KA6325	63	25	114	40	50
KA6340	63	40	114	55	50

- Other adapters on request
- For clean room compatible packaging please add "-CRP" to the order code

KF Fittings

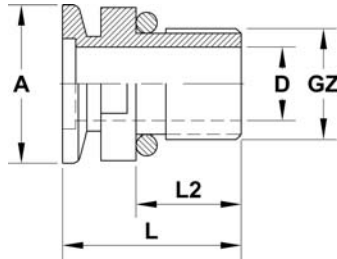
KF-G Adapter, G outside thread, stainless steel 316L



Order code	DN	A	GZ	D	L	SW
KF16GA12	16	30	1/2"	14	24	16
KF16GA14	16	30	1/4"	7	20	10
KF16GA34	16	30	3/4"	16	26	18
KF16GA38	16	30	3/8"	10	24	13
KF25GA1	25	40	1"	25	29	27
KF25GA12	25	40	1/2"	14	24	16
KF25GA34	25	40	3/4"	16	26	18
KF25GA114	25	40	1 1/4"	25	35	27
KF40GA114	40	55	1 1/4"	34	35	36
KF40GA112	40	55	1 1/2"	34	32	36
KF50GA2	50	75	2"	49	40	-

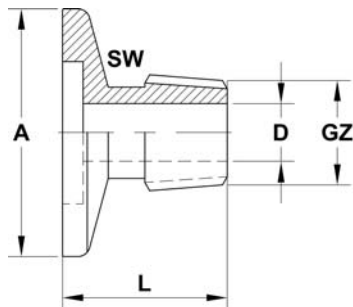
- For clean room compatible packaging please add "-CRP" to the order code

KF-G Adapter, G outside thread, stainless steel with FKM seal



Order code	DN	A	GZ	D	L	L2
KF16EF	16	30	1/2"	16	35	15
KF25EF	25	40	1"	25	45	25
KF40EF	40	55	1 1/2"	41	50	30

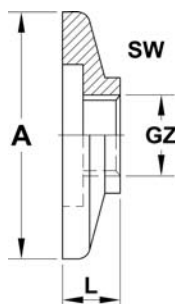
KF-R Adapter, R outside thread, stainless steel, 316L



Order code	DN	A	GZ	D	L	SW
KF16RA12	16	30	1/2"	14	27	19
KF25RA1	25	40	1"	25	32	27
KF40RA112	40	55	1 1/2"	38	40	41
KF50RA2	50	75	2"	51	43	-

- For clean room compatible packaging please add "-CRP" to the order code

KF-G Adapter, G inside thread, stainless steel, 316L



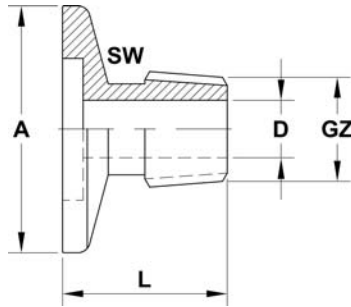
Order code	DN	A	GZ	L	SW
KF16GI18	16	30	1/8"	7	-
KF25GI14	25	40	1/4"	10	19
KF25GI12	25	40	1/2"	15	27
KF25GI34	25	40	3/4"	20	-
KF40GI12	40	55	1/2"	15	27
KF40GI1	40	55	1"	20	41
KF40GI114	40	55	1 1/4"	22	-

- For clean room compatible packaging please add "-CRP" to the order code

KF Fittings

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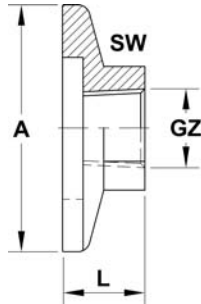
KF to NPT Adapters, NTP outside thread, stainless steel, 316L



Order code	DN	A	GZ	D	L	SW
KF16NPT14	16	30	1/4"	7.4	25	-
KF16NPT12	16	30	1/2"	14.9	32	19
KF16NPT34	16	30	3/4"	16	34	19
KF25NPT14	25	40	1/4"	7.4	25	-
KF25NPT34	25	40	3/4"	16	34	19
KF40NPT12	40	55	1/2"	14.9	32	19

- For clean room compatible packaging please add "-CRP" to the order code

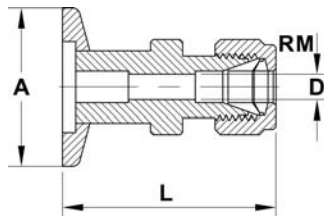
KF to NPT Adapters, NTP inside thread, stainless steel, 316L



Order code	DN	A	GZ	L	SW
KF16NPT18F	16	30	1/8"	10	13
KF16NPT14F	16	30	1/4"	13	19
KF25NPT14F	25	40	1/4"	13	19
KF25NPT18F	25	40	1/8"	10	13

- For clean room compatible packaging please add "-CRP" to the order code

KF to Swagelok Adapters, metric, stainless steel, 316L

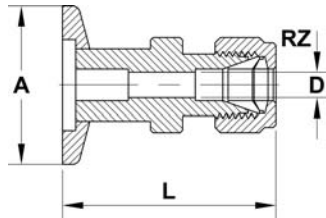


Order code	DN	A	D	L	RM
KSWA166	16	30	4.8	35	6
KSWA168	16	30	6.4	38	8
KSWA1610	16	30	7.9	44	10
KSWA256	25	40	4.8	33	6
KSWA258	25	40	6.4	38	8
KSWA2510	25	40	7.9	44	10
KSWA406	40	55	4.8	33	6
KSWA408	40	55	6.4	38	8
KSWA4010	40	55	7.9	44	10

- Swagelok compatible
- For clean room compatible packaging please add "-CRP" to the order code

KF Fittings

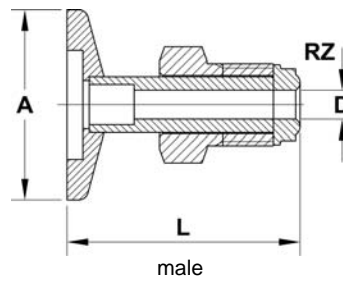
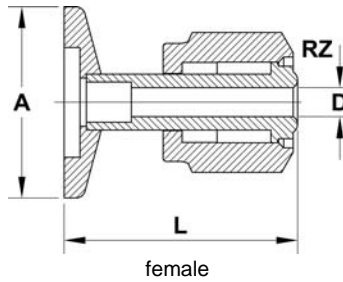
KF to Swagelok Adapters, imperial, stainless steel, 316L



Order code	DN	A	D	L	RZ
KSWA167	16	30	4.8	35	1/4"
KSWA169	16	30	7.1	44	3/8"
KSWA1613	16	30	10.4	53	1/2"
KSWA257	25	40	4.8	33	1/4"
KSWA259	25	40	7.1	44	3/8"
KSWA2513	25	40	10.4	53	1/2"
KSWA407	40	55	4.8	33	1/4"
KSWA409	40	55	7.1	44	3/8"
KSWA4013	40	55	10.4	53	1/2"

- Swagelok compatible
- For clean room compatible packaging please add "-CRP" to the order code

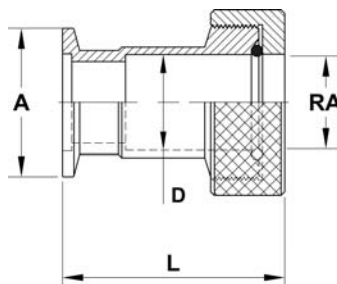
KF to VCR Adapters, female or male, stainless steel, 316L



Order code		DN	A	D	L	RZ
Female	Male					
KVCR166F	KVCR166M	16	30	4.8	36	1/4"
KVCR1613F	KVCR1613M	16	30	10.4	41	1/2"
KVCR256F	KVCR256M	25	40	4.8	36	1/4"
KVCR2513F	KVCR2513M	25	40	10.4	41	1/2"
KVCR406F	KVCR406M	40	55	4.8	36	1/4"
KVCR4013F	KVCR4013M	40	55	10.4	41	1/2"

- VCR compatible
- For clean room compatible packaging please add "-CRP" to the order code

KF Pinch screw connection, stainless steel, FKM seal

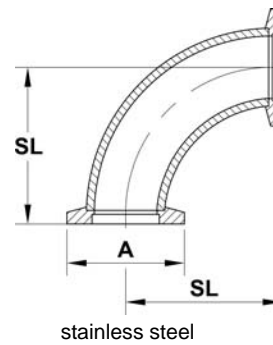
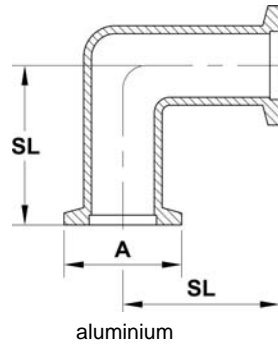


Order code	DN	A	D	L	RA
KF16TA12	16	30	13.1	50	12.7
KF25TA12	25	40	13.1	50	12.7
KF25TA25	25	40	25.8	60	25.4
KF40TA25	40	55	25.8	60	25.4

KF Fittings

1

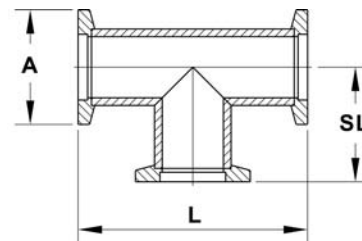
KF Elbows, 90°



Order code			DN	A	SL
Aluminium	Stainless steel 304*	Stainless steel 316L			
EL16KA	EL16K-304	EL16K-316	16	30	40
EL25KA	EL25K-304	EL25K-316	25	40	50
EL40KA	EL40K-304	EL40K-316	40	55	65
-	EL50K-304	EL50K-316	50	75	70

* For clean room compatible packaging please add "-CRP" to the order code

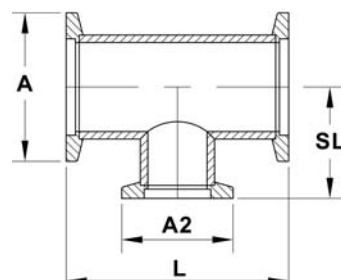
KF Tees



Order code			DN	A	L	SL
Aluminium	Stainless steel 304	Stainless steel 316L*				
TE16KA	TE16K-304	TE16K-316	16	30	80	40
TE25KA	TE25K-304	TE25K-316	25	40	100	50
TE40KA	TE40K-304	TE40K-316	40	55	130	65
-	TE50K-304	TE50K-316	50	75	140	70

* For clean room compatible packaging please add "-CRP" to the order code

KF Unequal tees, stainless steel



Order code	DN	DN2	A	A2	L	SL
UTE2516K	25	16	40	30	100	40
UTE4016K	40	16	55	30	130	40
UTE4025K	40	25	55	40	130	50
UTE5016K	50	16	75	30	140	50
UTE5025K	50	25	75	40	140	65
UTE5040K	50	40	75	55	140	65

• For clean room compatible packaging please add "-CRP" to the order code

KF Fittings

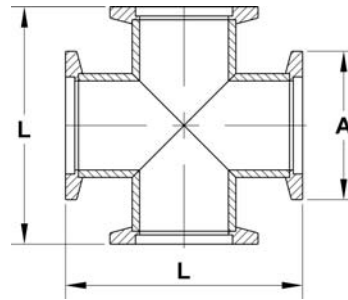
KF 4-way crosses, aluminium



aluminium



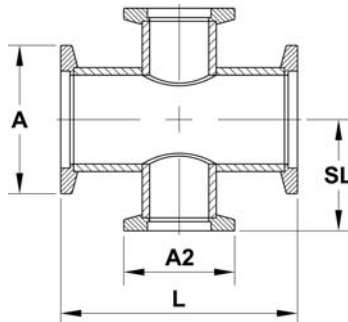
stainless steel



Order code			DN	A	L
Aluminium	Stainless steel 304*	Stainless steel 316L*			
X16KA	X16K-304	X16K-316	16	30	80
X25KA	X25K-304	X25K-316	25	40	100
X40KA	X40K-304	X40K-316	40	55	130
-	X50K-304	X50K-316	50	75	140

* For clean room compatible packaging please add "-CRP" to the order code

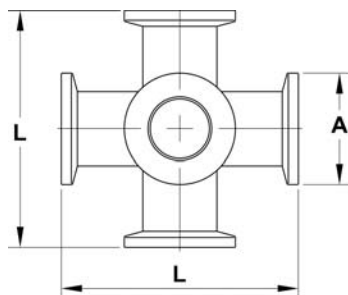
KF Reducing 4-way crosses, stainless steel



Order code	DN	DN2	A	A2	L	SL
X25K16	25	16	40	30	100	80
X40K16	40	16	55	30	130	80
X40K25	40	25	55	40	130	100
X50K25	50	25	75	40	140	100
X50K40	50	40	75	55	140	130

- For clean room compatible packaging please add "-CRP" to the order code

KF 6-way crosses, stainless steel



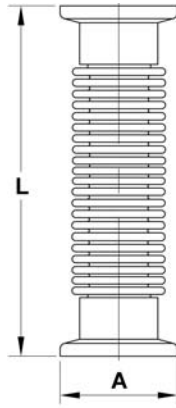
Order code	DN	A	L
XX16K	16	30	80
XX25K	25	40	100
XX40K	40	40	130
XX50K	50	75	140

- For clean room compatible packaging please add "-CRP" to the order code

KF Flexible hoses

1

KF Flexible hoses, stainless steel



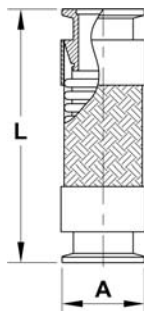
Technical data

■ Flange material	1.4301
■ Hose material	1.4404

Order code			DN	A	L	Bending radius
Stainless steel 304	Stainless steel 316L	Stainless steel 304 annealed				
FX16K25-304	FX16K25-316	FX16K25AN-304	16	30	250	-
FX16K50-304	FX16K50-316	FX16K50AN-304	16	30	500	-
FX16K75-304	FX16K75-316	FX16K75AN-304	16	30	750	50
FX16K100-304	FX16K100-316	FX16K100AN-304	16	30	1000	50
FX25K25-304	FX25K25-316	FX25K25AN-304	25	40	250	103
FX25K50-304	FX25K50-316	FX25K50AN-304	25	40	500	103
FX25K75-304	FX25K75-316	FX25K75AN-304	25	40	750	103
FX25K100-304	FX25K100-316	FX25K100AN-304	25	40	1000	103
FX40K25-304	FX40K25-316	FX40K25AN-304	40	55	250	90
FX40K50-304	FX40K50-316	FX40K50AN-304	40	55	500	90
FX40K75-304	FX40K75-316	FX40K75AN-304	40	55	750	90
FX40K100-304	FX40K100-316	FX40K100AN-304	40	55	1000	90
FX50K25-304	FX50K25-316	FX50K25AN-304	50	75	250	120
FX50K50-304	FX50K50-316	FX50K50AN-304	50	75	500	120
FX50K75-304	FX50K75-316	FX50K75AN-304	50	75	750	120
FX50K100-304	FX50K100-316	FX50K100AN-304	50	75	1000	120

- For clean room compatible packaging please add "-CRP" to the order code

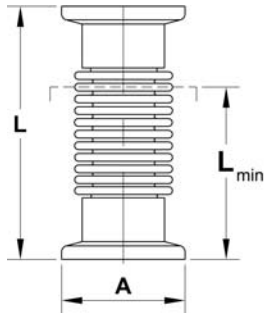
KF Braided flexible hoses, stainless steel



Order code	DN	A	L
BFX25K13	25	40	135
BFX25K25	25	40	250
BFX40K13	40	55	135
BFX40K25	40	55	250
BFX50K13	50	75	135
BFX50K25	50	75	250

KF Flexible hoses

KF Hydroformed bellows connectors, stainless steel



Technical data

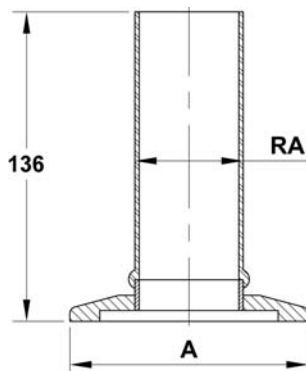
■ Flange material	1.4301
■ Bellows material	1.4404
■ Tolerances	L ±2 mm

Order code	DN	A	Lmin	L
KF16FXB	16	30	64	70
KF25FXB	25	40	63	80
KF40FXB	40	55	84	100
KF50FXB	50	75	84	100

- For clean room compatible packaging please add "-CRP" to the order code

KF Glass-to-metal Connections

KF Glass-to-metal connections, Kodial / Pyrex®



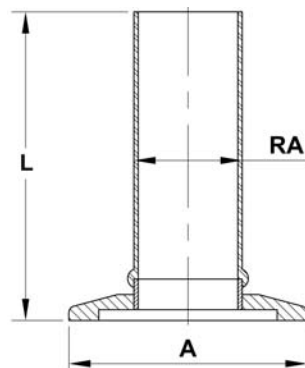
Technical data

■ Flange material	1.4301
■ Tolerances	RA ±1 mm, L ±3 mm
■ Bakeout temperature	max. 200 °C
■ Bakeout rate	2 - 3 °C/min

Order code		DN	A	RA
Kodial	Pyrex®			
KF16T13	KF16T13P	16	30	13
KF25T19	KF25T19P-L137	25	40	19
KF25T25	KF25T25P	25	40	25
KF40T25	KF40T25P	40	55	25
KF40T38	KF40T38P	40	55	38

- For detailed information see chapter viewports.

KF Glass-to-metal connections, quartz



Technical data

■ Flange material	1.4301
■ Tolerances	RA ±1 mm, L ±3 mm
■ Bakeout temperature	max. 200 °C
■ Bakeout rate	2 - 3 °C/min
■ Construction	metal-to-quartz transition using intermediate glass layers

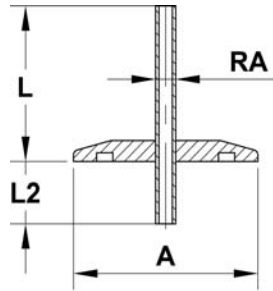
Order code	DN	A	RA	L
KF16T13Q	16	30	13	143
KF25T19Q	25	40	19	155
KF25T25Q	25	40	25	165
KF40T25Q	40	55	25	165
KF40T38Q	40	50	38	175

- For detailed information see chapter viewports.

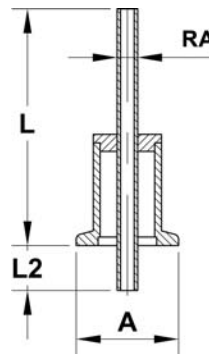
KF Liquid Feedthroughs

1

KF 1-way liquid feedthroughs, stainless steel, 316L



for liquid

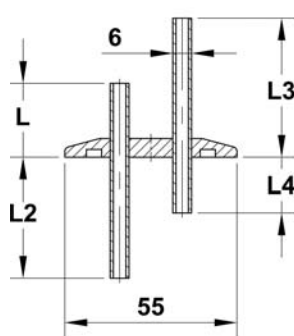
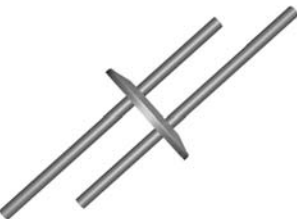


for liquid nitrogen

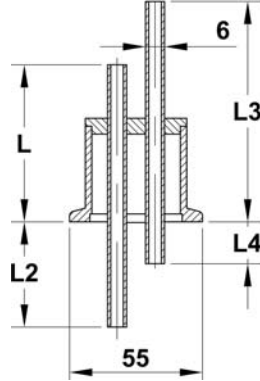
Order code		DN	A	RA	L	L2	Vacuum side	Atmosphere side
Liquid	Liquid nitrogen							
LFKF16PP	LNFKF16PP	16	30	6	75	45	tube	tube
LFKF40PP	LNFKF40PP	40	55	6	75	45	tube	tube
LFKF40PPL	LNFKF40PPL	40	55	12	75	45	tube	tube
LFKF40PSL	LNFKF40PSL	40	55	12	114	45	tube	Swagelok 12 mm
LFKF40SSL	LNFKF40SSL	40	55	12	114	84	Swagelok 12 mm	Swagelok 12 mm

- For clean room compatible packaging please add "-CRP" to the order code
- Other lengths and connections on request
- Swagelok compatible

KF 2-way liquid feedthroughs, stainless steel, 316L



for liquid



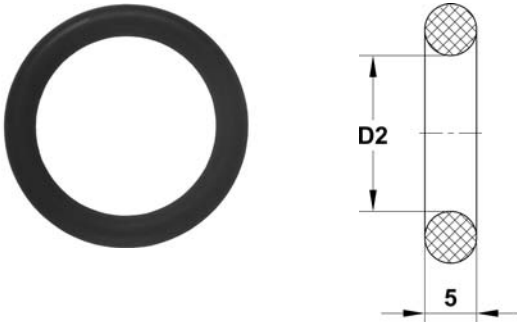
for liquid nitrogen

Order code		DN	L	L2	L3	L4	Vacuum side	Atmosphere side
Liquid	Liquid nitrogen							
LFKF402PP	LNFKF402PP	40	45	75	75	45	tube	tube
LFKF402PS	LNFKF402PS	40	45	103	75	73	tube	Swagelok 6 mm
LFKF402SP	LNFKF402SP	40	73	75	103	45	Swagelok 6 mm	tube

- For clean room compatible packaging please add "-CRP" to the order code
- Other lengths and connections on request
- Swagelok compatible

KF Seals

KF O-rings, elastomer



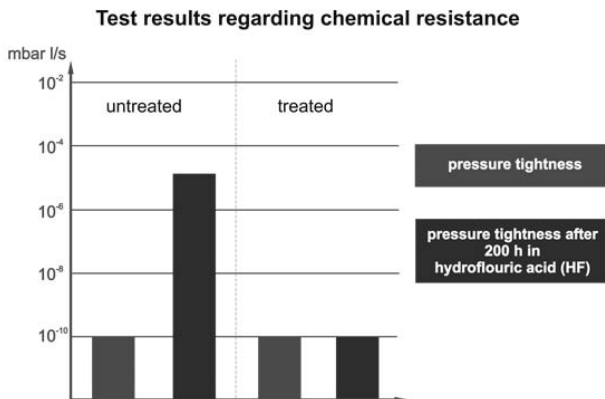
Technical data

- Temperature range: -10 °C to 150 °C (intermittent to 200 °C)

Order code		DN	D2
FKM treated	FKM vacuum baked*		
KF10VR-BEH	KF10VR-VB	10	15
KF16VR-BEH	KF16VR-VB	16	18
KF25VR-BEH	KF25VR-VB	25	28
KF40VR-BEH	KF40VR-VB	40	42
KF50VR-BEH	KF50VR-VB	50	55

* For clean room compatible packaging please add "-CRP" to the order code

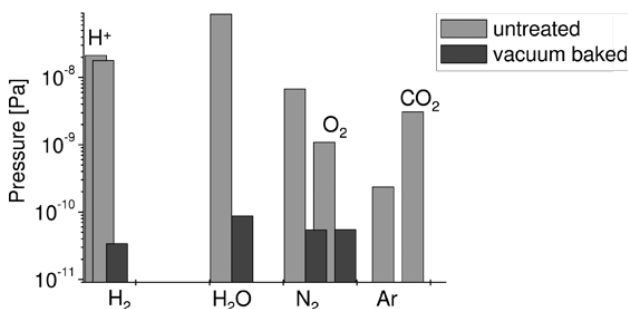
Chemically resistant KF O-rings, treated FKM



The commonly used elastomer seals suffer irreversible damage in corrosive environments and have a short life cycle. Therefore VACOM developed a procedure which considerably raises the durability of FKM O-rings used in aggressive processes. The procedure involves the pores of FKM so that corrosive liquids and gases cannot directly penetrate the O-ring structure.

The significant reduction in contact surface enables a considerable increase in resistance to reactive substances. Fields of application: Fore vacuum, exhaust pipes and all kinds of processes involving aggressive gases and liquids.

Vacuum baked KF O-rings



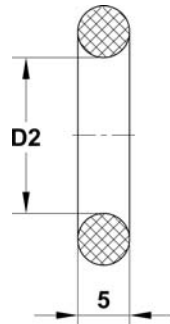
The rate between the residual gas contamination and the pumping speed has to be considered in order to provide an ultrapure vacuum. The desorption of water molecules from the O-ring contaminates the vacuum and causes higher pumping speeds. O-ring particles can disturb delicate vacuum processes.

A considerable particle reduction and low outgassing rates can be achieved by our special treatment of the O-rings. The spectrum inspection shows that our treatment of the O-rings enables a significant reduction in water content and volatile elements.

KF Seals

1

KF O-rings, elastomer

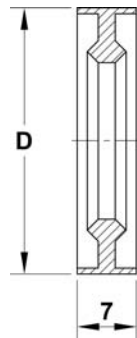


Technical data

- Temperature range NBR -10 °C to 100 °C
- Temperature range FKM -10 °C to 150 °C (intermittent 200 °C)

Order code		DN	D2
NBR	FKM		
KF10NR	KF10VR	10	15
KF16NR	KF16VR	16	18
KF25NR	KF25VR	25	28
KF40NR	KF40VR	40	42
KF50NR	KF50VR	50	55

KF Edge seals, aluminium, PTFE

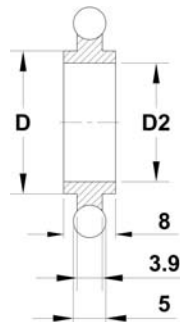


Technical data

- Temperature range aluminium to 150 °C
- Temperature range PTFE to 120 °C
- Connecting elements KF clamp chains

Order code		DN	D
Aluminium	PTFE		
KF10/16MS	KF10/16TS	16	32
KF20/25MS	KF20/25TS	25	42
KF32/40MS	KF32/40TS	40	57
KF50MS	KF50TS	50	77

KF Centering rings, NBR



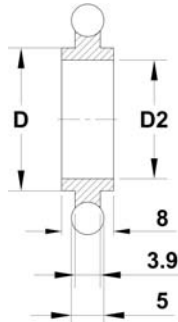
Technical data

- Temperature range -10 °C to 100 °C

Order code		DN	D	D2
Aluminium	Stainless steel			
KF10ANCR	KF10SNCR	10	12	10
KF16ANCR	KF16SNCR	16	17	16
KF25ANCR	KF25SNCR	25	26	25
KF40ANCR	KF40SNCR	40	41	40
KF50ANCR	KF50SNCR	50	52	50

KF Seals

KF Centering rings, FKM

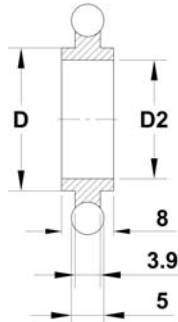


Technical data

- Temperature range -10 °C to 150 °C (intermittent 200 °C)

Order code		DN	D	D2
Aluminium	Stainless steel 304			
KF10AVCR	KF10SVCR-304	10	12	10
KF16AVCR	KF16SVCR-304	16	17	16
KF25AVCR	KF25SVCR-304	25	26	25
KF40AVCR	KF40SVCR-304	40	41	40
KF50AVCR	KF50SVCR-304	50	52	50

KF Centering rings, FKM, stainless steel 316L



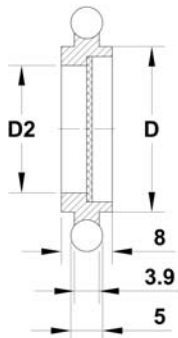
Technical data

- Temperature range -10 °C to 150 °C (intermittent 200 °C)
- Option vacuum baked or with improved chemical resistance (see page 1-21)

Order code			DN	D	D2
FKM*	FKM treated	FKM vacuum baked			
KF10SVCR-316	KF10SVCR-BEH-316	KF10SVCR-VB-316	10	12	10
KF16SVCR-316	KF16SVCR-BEH-316	KF16SVCR-VB-316	16	17	16
KF25SVCR-316	KF25SVCR-BEH-316	KF25SVCR-VB-316	25	26	25
KF40SVCR-316	KF40SVCR-BEH-316	KF40SVCR-VB-316	40	41	40
KF50SVCR-316	KF50SVCR-BEH-316	KF50SVCR-VB-316	50	52	50

* For clean room compatible packaging please add "-CRP" to the order code

KF Mesh centering rings, stainless steel



Technical data

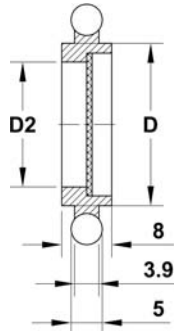
- Temperature range NBR -10 °C to 100 °C
- Temperature range FKM -10 °C to 150 °C (intermittent 200 °C)
- Mesh size 1 mm
- Wire size 0.3 mm

Order code		DN	D	D2
NBR	FKM			
KF16MCR1N	KF16MCR1V	16	17	14
KF25MCR1N	KF25MCR1V	25	26	23
KF40MCR1N	KF40MCR1V	40	41	38
KF50MCR1N	KF50MCR1V	50	52	48

KF Seals

1

KF Centering rings with sintered metal screen, stainless steel - FKM

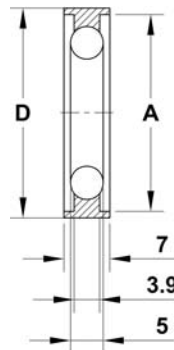


Technical data

- Temperature range -10 °C to 150 °C (intermittent 200 °C)
- Filter material stainless steel
- Pores width 20 µm

Order code	DN	D	D2
KF16FMCRV	16	17	15
KF25FMCRV	25	26	24
KF40FMCRV	40	41	39
KF50FMCRV	50	52	49

KF Outer centering rings, aluminium

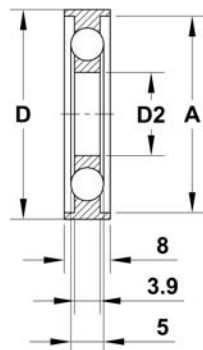


Technical data

- Temperature range NBR -10 °C to 100 °C
- Temperature range FKM -10 °C to 150 °C (intermittent 200 °C)

Order code		DN	D	A
NBR	FKM			
KF16AZRN	KF16AZRV	16	32	30
KF25AZRN	KF25AZRV	25	42	40
KF40AZRN	KF40AZRV	40	57	55
KF50AZRN	KF50AZRV	50	77	75

KF Trapped centering rings with support ring, stainless steel, NBR, aluminium



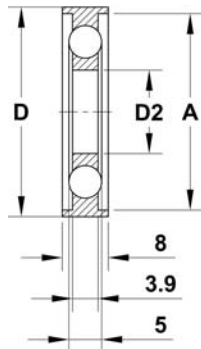
Technical data

- Temperature range -10 °C to 100 °C
- Outer ring material aluminium
- Centering ring material stainless steel

Order code	DN	D	A	D2
KF16TCRN	16	32	30	16
KF25TCRN	25	42	40	25
KF40TCRN	40	57	55	40
KF50TCRN	50	77	75	50

KF Seals

KF Trapped centering rings, FKM

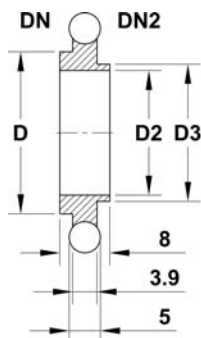


Technical data

- Temperature range -10 °C to 150 °C (intermittent 200 °C)
- Outer ring material aluminium
- Centering ring material stainless steel

Order code			DN	D	A	D2
Alu/Stainless steel 304	Alu/Stainless steel 316L	PTFE/PTFE				
KF16TCRV-304	KF16TCRV-316	KF16TVCR	16	32	30	16
KF25TCRV-304	KF25TCRV-316	KF25TVCR	25	42	40	25
KF40TCRV-304	KF40TCRV-316	KF40TVCR	40	57	55	40
KF50TCRV-304	KF50TCRV-316	KF50TVCR	50	77	75	50

KF Reducing centering rings, aluminium



Technical data

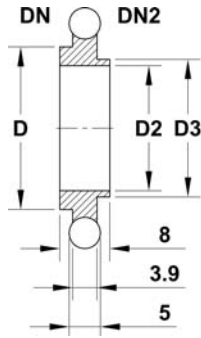
- Temperature range NBR -10 °C to 100 °C
- Temperature range FKM -10 °C to 150 °C (intermittent 200 °C)

Order code		DN	DN2	D	D2	D3
NBR	FKM					
KF10/16ANRCR	KF10/16AVRCR	16	10	17	10	12
KF20/25ANRCR	KF20/25AVRCR	25	20	26	20	22
KF32/40ANRCR	KF32/40AVRCR	40	32	41	32	34

KF Seals

1

KF Adapter centering rings, stainless steel



Technical data

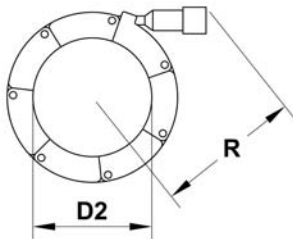
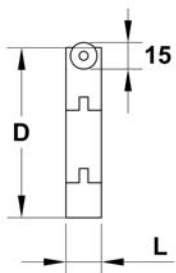
- Temperature range NBR -10 °C to 100 °C
- Temperature range FKM -10 °C to 150 °C (intermittent 200 °C)

Order code		DN	DN2	D	D2	D3
NBR	FKM					
KF10/16SNRCR	KF10/16SVRCR	16	10	17	10	12
KF20/25SNRCR	KF20/25SVRCR	25	20	26	20	22
KF32/40SNRCR	KF32/40SVRCR	40	32	41	32	34

* For clean room compatible packaging please add "-CRP" to the order code

KF Connecting elements

KF Clamp chains, polyamide



Technical data

	Type W	Type WH
■ Temperatures (short-term)	to 60 °C (70 °C)	to 100 °C (120 °C)
■ Colour	black	gray
■ Spec. resistance	10E12 Ohm · cm	10E15 Ohm · cm
■ Dielectr. strength	26 kV/mm	32 kV/mm
■ Link material	polyamide 6 (30 % glass fibre)	polyamide (35 % glass fibre)
■ Lock material	stainless steel and aluminium	stainless steel and aluminium
■ Bolt material	stainless steel	stainless steel
■ Suitable seals	elastomer	elastomer

Order code		DN	D	D2	L	R	Max. internal pressure (bar)
to 60 °C	to 100 °C						
W16	WH16	16	51	22	18	48	5
W25	WH25	25	61	32	18	55	4
W40	WH40	40	76	47	18	59	3
W50	WH50	50	96	67	20	68	3

KF Connecting elements

1

KF Clamp chains, aluminium

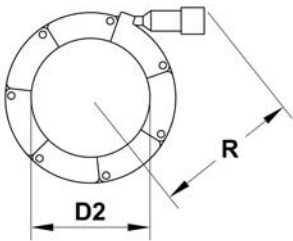
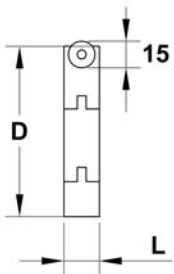


Technical data

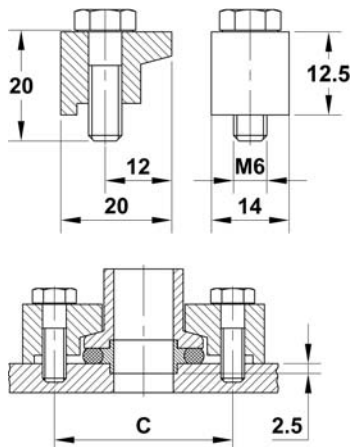
■ Temperature	to 150 °C
■ Link material	AlMgSi 1
■ Lock material	stainless steel
■ Bolt material	stainless steel
■ Suitable seals	elastomer, aluminium, copper

Order code	DN	D	D2	L	R	Max. internal pressure (bar)	Closing moment (Nm)
XA16	16	51	22	18	45	10	2.5
XA25	25	61	32	18	50	8	3.5
XA40	40	76	47	18	61	6	5.0
XA50	50	96	67	20	73	6	6.0

- Please mention the closing moments during over pressure application.



KF Claw clamps, aluminium

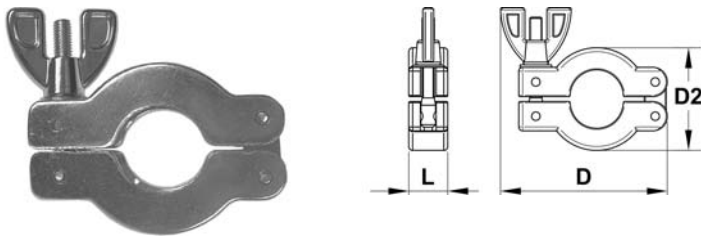


Order code	DN
KFC	16 - 50

DN	C	Number of required clamps
10	45	2
16	45	2
20	55	3
25	55	3
32	71	3
40	71	3
50	91	3

KF Connecting elements

KF Clamp rings, aluminium

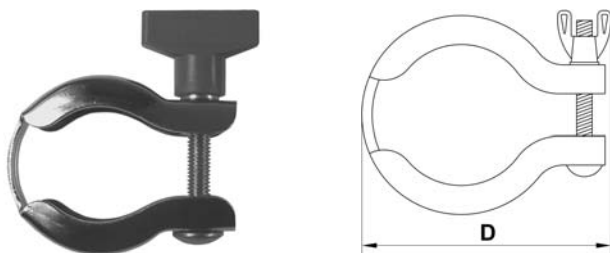


Technical data

■ Temperature range -10 °C to 200 °C

Order code	DN	D	D2	L
KF16C	16	62	42	16
KF25C	25	72	52	16
KF40C	40	90	70	16
KF50C	50	113	90	20

KF Clamp rings, stainless steel

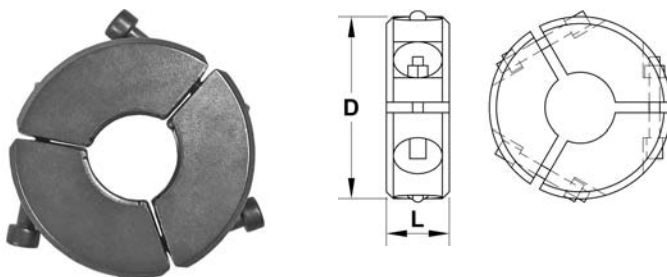


Technical data

■ Temperature range -10 °C to 125 °C

Order code	DN	D
KF16CLR	16	50
KF25CLR	25	63
KF40CLR	40	76
KF50CLR	50	100

KF Clamp rings for metal seals, aluminium

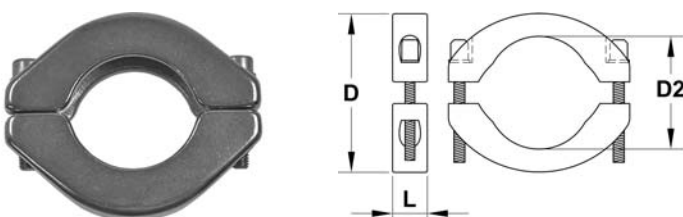


Technical data

■ Temperature range to 200 °C

Order code	DN	D	L
KF10/16MSCA	16	52	18
KF20/25MSCA	25	75	20
KF32/40MSCA	40	90	23
KF50MSCA	50	115	28

KF Clamp rings for metal seals, stainless steel



Technical data

■ Temperature range to 450 °C

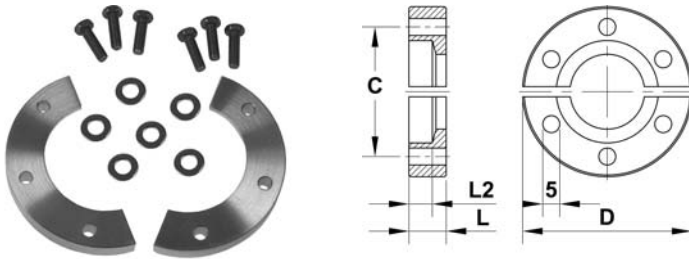
Order code	DN	D	D2	L
KF10/16MSC	16	54	22	17
KF20/25MSC	25	64	32	18
KF32/40MSC	40	82	47	18
KF50MSC	50	112	62	20

- For clean room compatible packaging please add "-CRP" to the order code

KF Connecting elements

1

KF Bulkhead clamps, aluminium



Order code	DN	D	C	L	L2	Incl. screws
BHC16	16	50	38	9	5	yes
BHC25	25	60	48	10	5	yes
BHC40	40	75	62	9	5	yes
BHC50	50	95	83	10	5	yes
BHC16K	16	50	38	11	7	no
BHC25K	25	60	48	11	7	no
BHC40K	40	75	63	11	7	no
BHC50K	50	95	83	12	7	no

- Suitable screws 10-32 UNF x 5/8"