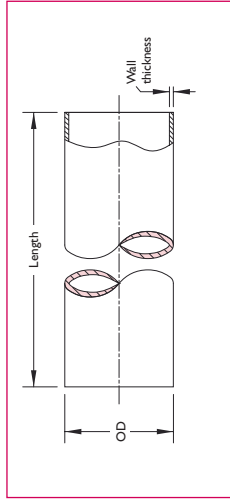


Vacuum tubing



Features

- 304 (1.4301) stainless steel
- Cut to size as required (see cutting charge)
- Vacuum tight
- Suitable for high vacuum and UHV
- Maximum shipping length 2m

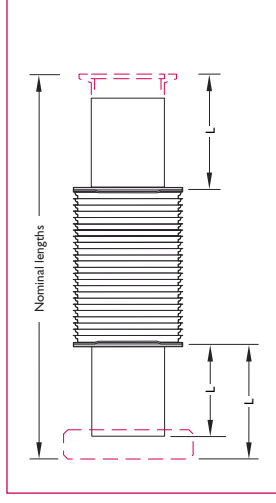
Description

Caburn-MDC 304 (1.4301) stainless steel tube is suitable for all high and ultrahigh vacuum applications. The material is priced per metre.

Nominal OD	Stainless steel	Tube wall thickness	Tube ID	Wt kg/m	Reference	Part number	£	€	SFr.
6.35 (1/4")		0.9 (20swg)	4.6	0.1	CT-06	I140001	26	39	57
9.52 (3/8")		0.9 (20swg)	7.7	0.2	CT-09	I140003	31	46	68
12.7 (1/2")		1.2 (18swg)	10.3	0.5	CT-12	I140008	33	49	73
19.1 (3/4")		1.2 (18swg)	16.7	0.6	CT-19	I140010	39	58	86
19.1 (3/4")		0.9 (20swg)	17.3	0.4	CT-19-09	I140011	39	58	86
38.1 (1 1/2")		1.6 (16swg)	34.9	1.5	CT-38	I140020	69	102	152
40.0		2.0 (14swg)	36.0	1.9	CT-40	I140024	71	105	156
41.2 (1 5/8")		1.6 (16swg)	38.0	1.6	CT-41	I140025	71	105	156
44.4 (1 7/8")		1.6 (16swg)	41.2	1.7	CT-44	I140026	79	116	174
50.8 (2")		1.6 (16swg)	47.6	2.0	CT-50	I140031	91	134	200
63.5 (2 1/2")		1.6 (16swg)	60.3	2.5	CT-63	I140036	101	148	222
70.0 (2 3/4")		2.0 (14swg)	66.0	3.0	CT-70	I140041	103	151	227
76.2 (3")		1.6 (16swg)	73.0	3.0	CT-76	I140042	106	155	233
101.6 (4")		1.6 (16swg)	98.4	4.1	CT-101	I140050	193	282	425
104.0		2.0 (14swg)	100.0	5.1	CT-104	I140052	203	297	447
108.0 (4 1/4")		2.0 (14swg)	104.0	5.3	CT-108	I140051	207	303	455
108.0 (4 1/4")		3.0 (10swg)	102.0	8.4	CT-108-32	I140066	207	303	455
152.4 (6")		3.0 (10swg)	146.4	12.1	CT-152	I140056	259	379	570
156.0 (6 1/8")		3.0 (10swg)	150.0	12.0	CT-156	I140057	265	388	583
159.0 (6 1/4")		3.0 (10swg)	153.0	11.8	CT-159	I140058	271	397	596
203.2 (8")		3.0 (10swg)	197.2	13.0	CT-203	I140063	313	458	689

Note
Tubes up to CT-41 have polished OD, all other sizes are not polished
All tubes are supplied UHV clean
All lengths subject to a +0 -5mm tolerance

Edge-welded bellows



Features

- Long-life bellows
- 316LN flange option available on request

Description

Caburn-MDC is pleased to showcase this range of edge-welded bellows connectors for UHV. These allow lateral movement, off-axis movement and vibration isolation.

Offered with four standard fittings

Weldable CF or ISO KF and LF flanges, our bellows are manufactured to the highest standards of cleanliness for UHV applications. All bellows are constructed from stainless steel grade AM350 with connectors in SS304 material.

Special bellows assemblies and custom fabrications are also available on request.

For other sizes/combinations of flanges available please contact your local sales office for a quotation.

Termination	Clear ID	Well OD	Max. stroke	Nom. ext. lengths ¹	Nominal Lengths compressed L	Reference	Part number	£	€	SFr.
DN16 AM350/304 Stainless steel	16	32	12	95	83	EWM16-12-CT	I200100	200	300	454
DN16 weldable	16	32	25	113	88	EWM16-25-CT	I200101	220	330	515
DN16 weldable	16	32	38	131	93	EWM16-38-CT	I200102	280	420	655
DN16 weldable	16	32	76	182	106	EWM16-76-CT	I200103	380	570	863
DN16CF	16	32	25	125	97	EWM16-25-CF	I200105	260	390	608
DN16CF	16	32	38	145	102	EWM16-38-CF	I200106	320	480	749
DN40 AM350/304 Stainless steel	38	62.5	12	132	120	EWM40-12-CT	I200113	200	300	454
DN40 weldable	38	62.5	25	147	122	EWM40-25-CT	I200114	230	345	522
DN40 weldable	38	62.5	38	167	129	EWM40-38-CT	I200115	260	390	590
DN40 weldable	38	62.5	76	216	140	EWM40-76-CT	I200116	360	540	817
DN40CF	38	62.5	25	159	133	EWM40-25-CF	I200118	340	510	772
DN40CF	38	62.5	38	178	140	EWM40-38-CF	I200119	390	585	885
DN40CF	38	62.5	76	228	151	EWM40-76-CF	I200120	480	720	1090
DN40KF	38	62.5	25	156	130	EWM40-25-KF	I200122	250	375	585
DN40KF	38	62.5	38	175	137	EWM40-38-KF	I200123	282	423	660
DN40KF	38	62.5	76	225	148	EWM40-76-KF	I200124	440	660	999
DN63 AM350/304 Stainless steel	66	95	25	185	160	EWM63-25-CT	I200127	330	495	749
DN63 weldable	66	95	38	206	168	EWM63-38-CT	I200128	370	555	840
DN63CF	66	95	25	204	179	EWM63-25-CF	I200131	408	612	954
DN63CF	66	95	38	225	187	EWM63-38-CF	I200132	468	702	1094
DN100 AM350/304 Stainless steel	100	132	12	175	163	EWM100-12-CT	I200139	350	525	795
DN100 weldable	100	132	25	191	166	EWM100-25-CT	I200140	404	606	945
DN100 weldable	100	132	38	210	172	EWM100-38-CT	I200141	532	798	1245
DN100CF	100	132	38	232	194	EWM100-38-CF	I200145	652	978	1526
DN160 AM350/304 Stainless steel	150	195	25	214	189	EWM160-25-CT	I200153	500	750	1135
DN160CF	150	195	25	239	214	EWM160-25-CF	I200157	1100	1650	2497
DN160LF	150	195	25	226	201	EWM160-25-LF	I200161	POA	POA	POA

¹ Nominal length is subject to a 10% variation



Weldable

Introduction

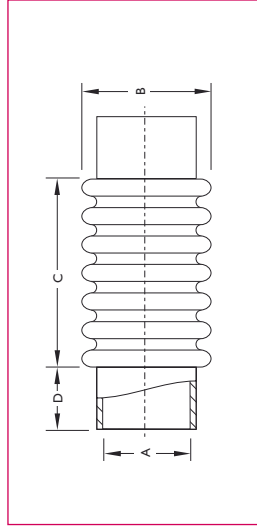
Unflanged bellows



FB-6502



FB-64T



Features

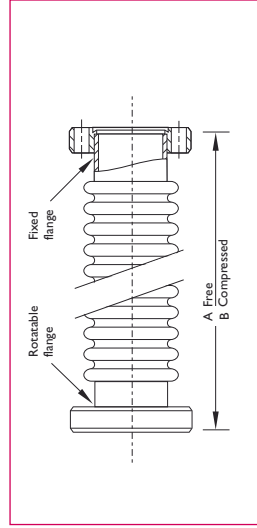
- Type 321 stainless steel
- Highly-flexible, short-length bellows for alignment

Wall thickness	A	B	C	D	Deflection	Reference	Part number	£	€	SFr.
0.13	6.4	9.4	25.4	12.7	±6.4	FB-6502	470000	22	34	51
0.13	7.9	11.7	25.4	12.7	±6.4	FB-6503	470001	27	42	63
0.13	9.4	14.5	38.1	12.7	±9.7	FB-6504	470002	27	42	63
0.13	12.7	19.1	38.1	12.7	±9.7	FB-6506	470003	31	48	72

Flexible couplings



150-X



Features

- CF Flange tabulated
- One flange rotatable

Flange	Bellows ID	A Maximum	B Minimum	Reference	Part number	£	€	SFr.
DN16CF	12.7	76.2	66.5	075-X	400000	71	100	156
DN16CF	12.7	254.0	-	075-X-10	400001	75	113	170
DN40CF	31.8	88.9	78.7	150-X	400003	88	124	183
DN83CF	50.8	158.8	139.7	250-X	400005	200	300	454
DN100CF	88.9	193.5	168.1	400-X	400007	300	450	681
DN160CF	133.7	228.6	203.2	600-X	400009	500	750	1135
DN200CF	190.5	254.0	228.6	800-X	400010	832	1248	1947
DN250CF	254.0	279.4	254.0	1000-XB	400012	POA	POA	POA

All dimensions are nominal in millimetres unless specified

All dimensions are nominal in millimetres unless specified



Features

- Wire-reinforced PVC hose
- Stainless steel unbraided hose
- Stainless steel braided hose

Wire reinforced PVC hose

Caburn-MDC wire reinforced PVC hose is a flexible and economical solution for mechanical pump roughing lines. They are suitable for basic vacuum service. The wire reinforced wall prevents tube collapse while under vacuum loads, yet provides adequate flexibility for convoluted line paths.

Flexible PVC wire reinforced hose is available in diameters from 19 to 50mm, with or without end terminations. Available with stainless steel ISO KF flanges. The PVC hose is secured to the KF Flange terminations via stainless steel hose clamps.

Flexible stainless steel hose

Caburn-MDC flexible stainless steel hose is the perfect solution for applications where standard straight-line vacuum plumbing is not practical or where vibration isolation is required.

This type of hose consists of a relatively thin-wall-formed stainless steel bellows and is available with an optional, stainless steel braided sheath.

The flexible stainless steel braiding protects the formed bellows from abrasion or impact produced by component movement or vacuum cycling and also protects the hose from excessive bending.

Both braided and unbraided configurations are offered with a choice of four end terminations including CF metal seal flanges, ISO KF and ISO LF flanges as well as tube end terminations. Limited only by the choice of flange, all stainless steel hoses can be baked to 450°C.

Custom lengths and terminations other than those listed are available on request. CF metal seal flanges provide a complete metal air-to-vacuum seal required for UHV applications.

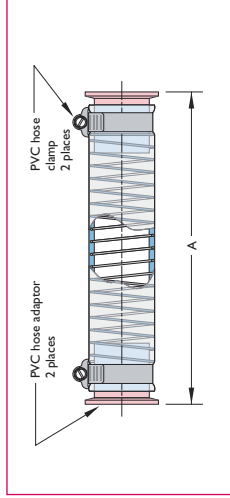
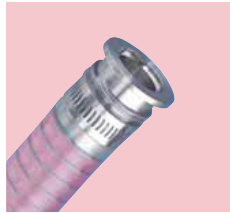
Note The large and convoluted internal surface area will require lengthy pumping to achieve UHV pressures. Flexible hoses tend to contract when subjected to internal vacuum loads.

Components connected to either end of a hose must be securely anchored to prevent movement or possible damage. The total load exerted by atmospheric pressure is substantial and can move roughing pumps and other light, non-secured components.

The static bend radius specification for a formed bellows is the minimum radius the bellows can be curved without permanent deformation.

PVC Flexible vacuum hose and fittings

ISO KF



Features

- Mates with standard ISO KF fittings
- 35°C (95°F) maximum temperature
- Custom lengths available on request

Nominal hose bore	Flange	Static bend radius	A ¹	Wt kg	Reference	Part number	£	€	SFr.
19 (3/4")	DN16KF	500	600	0.5	KPVC16-600	I202000	55	83	129
19 (3/4")	DN16KF	500	1200	1.0	KPVC16-1200	I202004	66	99	154
25 (1")	DN25KF	500	600	0.5	KPVC25-600	I202001	68	102	158
25 (1")	DN25KF	500	1200	3.0	KPVC25-1200	I202005	86	129	201
38 (1 1/2")	DN40KF	500	600	0.6	KPVC40-600	I202002	82	123	192
38 (1 1/2")	DN40KF	500	1200	3.0	KPVC40-1200	I202006	109	164	255
50 (2")	DN50KF	500	600	0.6	KPVC50-600	I202003	111	167	259
50 (2")	DN50KF	500	1200	3.4	KPVC50-1200	I202007	156	234	365

¹ Length is subject to tolerance of ±10mm.

PVC Hose per metre

Flange	Static bend radius	A ¹	Reference	Part number	£	€	SFr.
DN16	500	1000	PVC16	I202020	10	15	23
DN25	500	1000	PVC25	I202021	15	23	34
DN40	500	1000	PVC40	I202022	25	38	57
DN50	500	1000	PVC50	I202023	31	47	70

¹ Length is subject to tolerance of ±10mm.

PVC Hose fitting

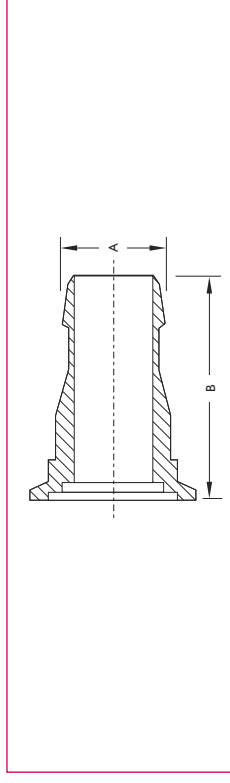
Flange	Reference	Part number	£	€	SFr.
DN16KF	K16-HF	I120207	11	17	25
DN25KF	K25-HF	I120208	16	24	37
DN40KF	K40-HF	I120209	22	33	51
DN50KF	K50-HF	I120210	30	47	70

Hose clamps

Flange	Reference	Part number	£	€	SFr.
DN16KF	K16-HC	I120227	2	3	5
DN25KF	K25-HC	I120228	2	3	5
DN40KF	K40-HC	I120229	3	4	6
DN50KF	K50-HC	I120230	4	6	9

KF to rubber hose adaptors

KF to rubber hose adaptor



KF Flange	Hose size	A	B	Reference	Part number	£	€	SFr.
DN16KF	15.9 or 19.1	19.1	41.9	K16-RHA	735001	10	15	22
DN25KF	19.1 or 22.2	22.1	43.9	K25-RHA	735002	12	18	26
DN40KF	38.1 or 41.3	41.4	55.1	K40-RHA	735003	15	22	33
DN50KF	38.1 or 41.3	41.4	55.1	K50-RHA	735004	19	28	41

Flexible stainless steel hose



UHV and HV series

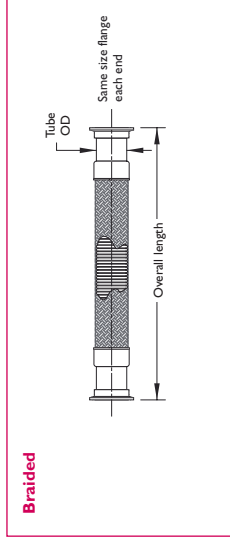
Features

- Unbraided or braided configurations
- Highly flexible
- Allows for connection between misaligned pumps and chambers
- Provides vibration isolation from mechanical pumps
- All-metal flange hose bakeable to 450°C

Thin wall Braided



Braided



Features

- KF flanges
- Thin wall braided
- Other flanges, connectors and custom lengths available on request

Flexible stainless steel hose

Specifications

Material	304ss
Hose	304ss
Flanges	304ss
Gaskets	OFE Copper or Viton® elastomer
O-Rings	Viton®, Buna-N® or Silicone elastomer
Clamps, hinged and bulkhead	Aluminium
Fastening	
Bolt, clamp, bulkhead	Refer to individual flange

Vacuum range

CF	1x10 ⁻¹⁰ mbar
ISO KF and LF	1x10 ⁻⁸ mbar

Temperature range

Copper gasket	Minimum	Intermittent	Sustained
	-200°C	450°C	400°C
Viton®	-20°C	200°C	150°C
Buna-N®	-20°C	100°C	80°C
Silicone	-20°C	200°C	150°C

Description

Caburn-MDC flexible, stainless steel hose is useful in situations where standard straight-line plumbing is impractical or where vibration isolation is necessary.

The hose consists of stainless steel formed bellows covered with an optional tough metal braid of the same material. The flexible braid protects the bellows from abrasion or impact and provides external support to a component that tends to move under vacuum. The hose provides great flexibility, strength and durability, and is bakeable.

Hoses with CF flanges provide a complete metal air-to-vacuum seal required for UHV applications.

Note Large internal surface area requires lengthy pumping to achieve UHV pressures.

Care must be taken when installing to not exceed the specified bend radius. The static bend radius of a flex hose is the minimum radius a hose can be curved without encountering permanent deformation.

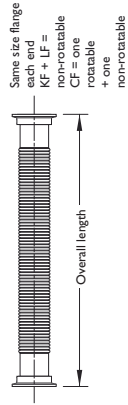
Because all flex hoses compress when subjected to internal vacuum pressures, equipment connected to either end of a flex hose must be securely anchored. Atmospheric pressure exerts a substantial force and can move roughing pumps or other light, non-secured components.

Flange size	Overall length	Nominal tube OD	Flange connection both ends	Wt. kg	Reference	Part number	£	€	SFr.
304 Stainless steel									
DN25	135	25	DN25KF	0.5	BRBEL25-135	1202100	65	98	152
DN25	250	25	DN25KF	0.6	BRBEL25-250	1202101	69	104	161
DN25	500	25	DN25KF	0.9	BRBEL25-500	1202102	76	114	177
DN25	1000	25	DN25KF	1.7	BRBEL25-1000	1202103	93	140	217
DN40	135	38	DN40KF	0.9	BRBEL40-135	1202104	71	107	166
DN40	250	38	DN40KF	1.0	BRBEL40-250	1202105	78	117	182
DN40	500	38	DN40KF	1.2	BRBEL40-500	1202106	89	134	208
DN40	1000	38	DN40KF	2.0	BRBEL40-1000	1202107	108	162	252
DN50	135	51	DN50KF	1.0	BRBEL50-135	1202108	93	140	217
DN50	250	51	DN50KF	1.1	BRBEL50-250	1202109	100	150	234
DN50	500	51	DN50KF	1.4	BRBEL50-500	1202110	113	170	264
DN50	1000	51	DN50KF	2.3	BRBEL50-1000	1202111	129	194	302

Thin wall Unbraided



Unbraided



Features

- CF, ISO KF and LF connections
- Thin wall unbraided
- Other flanges, connectors and custom lengths available on request



Description

Caburn-MDC quick-disconnects provide a fast and convenient method for coupling and uncoupling metal and glass tubing. They can be welded, brazed, or soldered to flanges, manifolds, chambers and other vacuum equipment. Quick-disconnects are ideal for mounting ion gauges, thermocouple gauges, special test ports and feedthroughs. Components are fabricated from 304 stainless steel or brass. Assemblies are useable to 1×10^{-8} mbar and can be baked to 200°C. The maximum temperature for sustained use is 150°C.

Note Repeated bake-out to 200°C can cause deterioration of O-rings and require their periodic replacement.

The compression of a Viton® O-ring can accommodate variations in a tube up to 0.2mm. It is essential that all inserted tubes have accurate fractional inch diameters. Quick-disconnects have a bore clear through the body and do not restrict a tube from entering as far as desired into a chamber. Care must be taken when loosening the knurled compression seal nut for adjustment while the unit is under vacuum.

Specifications

Material	304ss or brass
Fittings	Viton®
O-rings	304ss
Flanges	
Fastening	
Torque	Finger-tight
Vacuum range	1×10^{-8} mbar
Temperature range	-20°C to 200°C
Weight and dimensions	See table

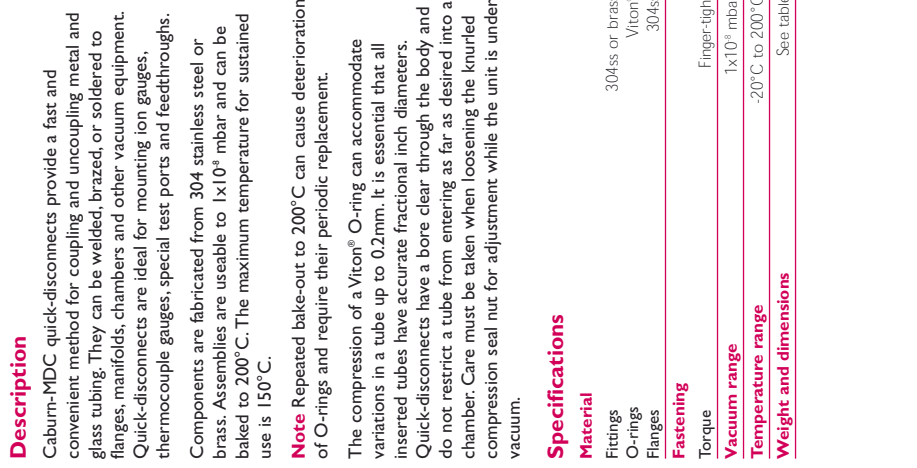
Part number	£	€	\$Fr.
I201000	60	90	140
I201001	71	107	166
I201002	82	123	192
I201005	49	74	114
I201006	48	72	109
I201007	54	81	123
I201010	54	81	126
I201011	64	96	149
I201012	73	110	170
I201015	84	126	196
I201016	93	140	217
I201020	73	110	170
I201021	84	126	196
I201022	81	122	184
I201025	86	129	201
I201026	97	146	227
I201027	108	162	252
I201030	158	237	369
I201031	171	257	400
I201032	184	276	430
I201035	188	282	439
I201036	201	302	470
I201037	214	321	500
I201041	282	423	660
I201042	295	443	690
I201043	320	480	749
I201046	272	408	636
I201047	292	438	683
I201048	312	468	730
I201052	421	632	985
I201053	440	660	1048
I201054	471	707	1102
I201057	382	573	894
I201058	406	609	950
I201059	431	647	1008

Customer note

Custom lengths subject to a maximum length of 2m (due to shipping restrictions) for DNI6, 25, 40 and 50 KF sizes
 -All other sizes, maximum length is 1m

Features

- High-vacuum rated to 1×10^{-8} mbar
- Temperature rated to 200°C maximum
- Symmetric, non-rotatable geometries
- Viton® O-rings
- Fast coupling
- Large range of tube sizes
- Weldable, Conflat®, and ISO compatible designs
- Flanged versions available





Section 1.3 Weldable components

Quick-disconnect

Flanges and fittings

Flanges and fittings

Section 1.3 Hybrid adaptors

Introduction

Stainless steel



Brass



Reference	Part number	£	SFR.	Accepts tube size	Body ID	Body OD	Nut OD	Nom. L	Wt. kg	Reference	Part number	£	SFR.
DS-06	410000	28	42	1.6 (1/16")	1.8	10	13	33.3	0.05	DB-06	411000	18	27
DS-12	410001	28	42	3.2 (1/8")	3.3	10	13	33.3	0.07	DB-12	411001	18	27
DS-25	410003	28	42	6.4 (1/4")	6.4	10	16	33.3	0.10	DB-25	411003	18	27
DS-50	410006	33	49	12.7 (1/2")	12.7	16	22	35.0	0.15	DB-50	411006	23	35
DS-75	410008	36	54	19.1 (3/4")	19.0	22	35	41.3	0.27	DB-75	411008	28	42
DS-100	410009	41	61	22.2 (7/8")	22.0	25	35	41.3	0.30	DB-87	411009	30	45
DS-112	410010	46	68	25.4 (1")	25.0	29	41	47.5	0.50	DB-100	411010	35	53
DS-125	410012	74	109	28.6 (1 1/8")	28.0	32	48	47.5	0.50	DB-112	411011	39	59
DS-138	410013	97	143	34.9 (1 3/8")	34.9	41	51	54.0	0.67	DB-125	411012	40	60
DS-150	410014	112	164	38.1 (1 1/2")	38.1	45	57	57.0	0.70	DB-138	411013	60	90
										DB-150	411014	75	113

Dimensions given in the table above apply to both the stainless steel fittings on the left and the brass fittings on the right

Blankoff Stainless steel



Blankoff Brass

Nominal size	Reference	Part number	£	SFR.	Nominal size	Reference	Part number	£	SFR.
1.6 (1/16")	S-06	410100	13	19	1.6 (1/16")	B-06	411100	8	12
3.2 (1/8")	S-12	410101	13	19	3.2 (1/8")	B-12	411101	8	12
6.4 (1/4")	S-25	410103	13	19	6.4 (1/4")	B-25	411103	8	12
12.7 (1/2")	S-50	410106	13	19	12.7 (1/2")	B-50	411106	8	12
19.1 (3/4")	S-75	410108	15	23	19.1 (3/4")	B-75	411108	10	15
22.2 (7/8")	S-87	410109	15	23	22.2 (7/8")	B-87	411109	10	15
25.4 (1")	S-100	410110	15	23	25.4 (1")	B-100	411110	11	17
28.6 (1 1/8")	S-112	410111	21	32	28.6 (1 1/8")	B-112	411111	15	23
31.8 (1 1/4")	S-125	410112	21	32	31.8 (1 1/4")	B-125	411112	15	23
34.9 (1 3/8")	S-138	410113	21	32	34.9 (1 3/8")	B-138	411113	15	23
38.1 (1 1/2")	S-150	410114	32	47	38.1 (1 1/2")	B-150	411114	20	30

O-rings



Nominal size	Reference	Part number	£	SFR.
1.6 (1/16")	VO-2-003	041003	3	5
3.2 (1/8")	VO-2-006	041006	3	5
6.4 (1/4")	VO-2-010	041010	3	5
12.7 (1/2")	VO-2-014	041014	8	12
22.2 (7/8")	VO-2-118	041118	5	8
25.4 (1")	VO-2-120	041120	5	8
28.6 (1 1/8")	VO-2-216	041216	5	8
31.8 (1 1/4")	VO-2-218	041218	5	8
34.9 (1 3/8")	VO-2-220	041220	6	9
38.1 (1 1/2")	VO-2-222	041222	7	11

All dimensions are nominal in millimetres unless specified. Weights given are approximate.

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All dimensions are nominal in millimetres unless specified. Caburn-MDC Europe Limited Telephone +44 (0)870 428 7646 www.caburn.co.uk



UHV and HV series

Features

- High-vacuum rated to 1×10^{-8} mbar
- Temperature rated to 200°C maximum
- CF to Swagelok® or VCR® provides UHV, pressure, and temperature ranges
- Non-rotatable and symmetric geometries
- Viton® elastomer O-rings
- CF, ISO, KF and LF compatible flanges
- Custom adaptors available upon request

Description

Caburn-MDC hybrid adaptors provide a transition from one method of sealing to another. The hybrid feature of these adaptors is that the geometries at each end of any component are different. This is more than a change in size within a particular sealing method. They are available in most of the common interface transition pairs.

There are two major categories of adaptors: one combines pairs of standard vacuum flanges and the other combines standard fittings with flanges.

A frequent transition is from a metal seal flange to an O-ring sealed flange or fitting. Specifications are generally limited by the introduction of an O-ring seal. All hybrid adaptors, except the CF to Swagelok® or VCR® adaptors, include at least one non-metal seal and are therefore limited to high vacuum applications. Refer to individual component sections for specifications.

Reducers are a change in size within a particular flange sealing method, such as metal-seal to metal-seal. Reducers within a specific sealing method can be found in the fittings portion of each flange section.

Custom configurations available on request.

Specifications

Material	304ss and 316ss
Flanges	304ss
Fittings	304ss
Fastening	See individual flange specifications
Method and size	1x10 ⁻⁸ mbar
Vacuum range	1x10 ⁻⁹ mbar 1 s ⁻¹
Fittings leak test	-20°C to 200°C
Temperature range	See table
Weight and dimensions	See table



Section 1.3 Hybrid adaptors Flange to flange

Flanges and fittings

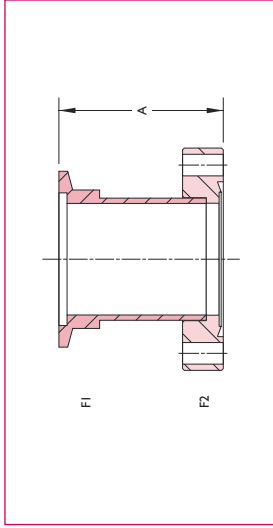
Flanges and fittings

Section 1.3 Hybrid adaptors Flange to flange



CF to ISO KF or ISO LF

ISO KF

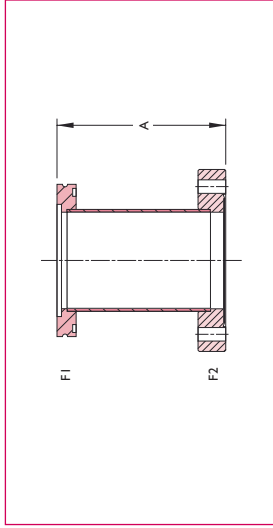


Features

- CF flange to ISO KF
- Custom lengths available on request

Flange F1	OD	Flange F2	OD	Tube min. ID	A	Wt kg	Reference	Part number	£	€	SFr.
Stainless steel											
DNI6KF	30	DNI6CF	34	16	51	0.2	ST16-K16	7730000	37	56	82
DNI6KF	30	DN40CF	70	16	51	0.2	ST40-K16	7730001	37	56	82
DN25KF	40	DN40CF	70	22	51	0.4	ST40-K25	7730002	42	63	92
DN40KF	55	DN40CF	70	34	51	0.4	ST40-K40	7730003	42	63	92
DN40KF	55	DN63CF	114	34	51	1.4	ST63-K40	7730006	90	135	199
DN50KF	75	DN63CF	114	47	51	1.4	ST63-K50	7730005	90	135	199

ISO LF



Features

- CF flange to ISO KF
- Custom lengths available on request

Flange F1	OD	Flange F2	OD	Tube min. ID	A	Wt kg	Reference	Part number	£	€	SFr.
Stainless steel											
DN63LF	95	DN63CF	114	60	105	1.4	LST63-CF63	830000	133	195	293
DNI00LF	130	DNI00CF	152	97	106	2.3	LST100-CF100	830001	174	255	383
DNI60LF	180	DNI60CF	203	145	108	4.0	LST160-CF160	830002	251	367	552
DN200LF	240	DN200CF	254	197	108	7.3	LST200-CF200	830003	359	525	790

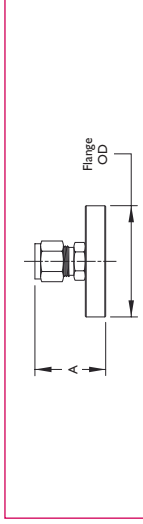
Caburn-MDC reserves the right to substitute a larger-bore tube according to availability

Hamlet® to CF or ISO KF

CF



450°C maximum



Features

- 304ss flange material
- 316ss Hamlet® material
- Two flange configurations

Hamlet® nominal size	Tube OD	Flange nominal	Flange OD	A nom.	Wt kg	Reference	Part number	£	€	SFr.
1/4"	6.4	DN16CF	34	34	0.1	SWG35-C16	7414000	51	79	119
1/4"	6.4	DN40CF	70	36	0.5	SWG35-C40	7414001	56	86	131
1/2"	12.7	DN16CF	34	43	0.1	SWG50-C16	7414002	56	86	131
1/2"	12.7	DN40CF	70	43	0.5	SWG50-C40	7414003	60	94	141
3/4"	19.1	DN40CF	70	52	0.5	SWG75-C40	7414004	98	152	228
1"	25.4	DN40CF	70	60	0.5	SWG100-C40	7414005	116	181	272

KF



200°C maximum

Hamlet® nominal size	Tube OD	Nominal ref. ISO	Flange OD	A nom.	Wt kg	Reference	Part number	£	€	SFr.
1/4"	6.4	DN16KF	30	46	0.1	K16-SWG25	7414012	42	65	97
1/4"	6.4	DN25KF	40	46	0.1	K25-SWG25	7414013	47	72	108
1/4"	6.4	DN40KF	55	46	0.1	K40-SWG25	7414014	47	72	108
1/4"	6.4	DN50KF	75	46	0.1	K50-SWG25	7414015	51	79	119
1/2"	12.7	DN25KF	40	44	0.1	K25-SWG50	7414016	47	72	108
1/2"	12.7	DN40KF	55	42	0.1	K40-SWG50	7414017	47	72	108
1/2"	12.7	DN50KF	75	42	0.1	K50-SWG50	7414018	51	79	119
3/4"	19.1	DN40KF	55	48	0.2	K40-SWG75	7414019	79	123	185
3/4"	19.1	DN50KF	75	48	0.2	K50-SWG75	7414020	84	130	195
1"	25.4	DN40KF	55	59	0.2	K40-SWG100	7414021	102	159	239
1"	25.4	DN50KF	75	59	0.2	K50-SWG100	7414022	107	166	250

All dimensions are nominal in millimetres unless specified. Weights given are approximate.

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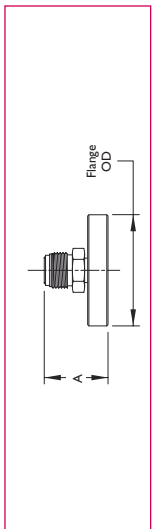
All dimensions are nominal in millimetres unless specified. Weights given are approximate.
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Male VCR® to CF or ISO KF

CF



450°C maximum



Features

- 304ss flange material
- 316ss VCR® material
- Two flange configurations

Male VCR® nominal size	Tube OD	Flange nominal	Flange OD	Approx. length	Wt. kg	Reference	Part number	£	€	SFr.
1/4"	6.4	DN16CF	34	35	0.1	VCR25-C16	7414006	51	79	119
1/4"	6.4	DN40CF	70	38	0.4	VCR25-C40	7414007	56	86	131
1/2"	12.7	DN16CF	34	39	0.1	VCR50-C16	7414008	56	86	131
1/2"	12.7	DN40CF	70	39	0.4	VCR50-C40	7414009	60	94	141
3/4"	19.1	DN40CF	70	52	0.4	VCR40-C40	7414010	88	137	206
1"	25.4	DN40CF	70	58	0.4	VCR100-C40	7414011	107	166	250

KF



200°C maximum

Male VCR® nominal size	Tube OD	Flange nominal	Flange OD	Approx. length	Wt. kg	Reference	Part number	£	€	SFr.
1/4"	6.4	DN16KF	30	33	0.1	K16-VCR25	414055	42	63	97
1/4"	6.4	DN25KF	40	33	0.1	K25-VCR25	414056	47	71	108
1/4"	6.4	DN40KF	55	33	0.1	K40-VCR25	414057	47	71	108
1/2"	12.7	DN25KF	40	38	0.1	K25-VCR50	414058	51	77	119
1/2"	12.7	DN40KF	55	38	0.1	K40-VCR50	414059	47	71	108
1/2"	12.7	DN50KF	75	38	0.1	K50-VCR50	414060	47	71	108
3/4"	19.1	DN40KF	55	51	0.2	K40-VCR75	414061	51	77	119
3/4"	19.1	DN50KF	75	51	0.2	K50-VCR75	414062	79	119	185
1"	25.4	DN40KF	55	56	0.2	K40-VCR100	414063	84	126	195
1"	25.4	DN50KF	75	56	0.2	K50-VCR100	414064	102	153	239
1"	25.4	DN50KF	75	56	0.2	K50-VCR100	414065	107	161	250

Quick-disconnect to CF or baseplate

Caburn-MDC flanged quick-disconnects provide rapid access into vacuum chambers through flanged ports. They offer all the convenience and flexibility of standard quick-disconnects when mated with CF baseplate or KF ports on a vacuum system. Quick-disconnects are a fast and convenient method for coupling and uncoupling metal and glass tubing. They permit the speedy interchange of feedthroughs, adaptors, thermocouple gauges and a variety of other special-purpose devices.

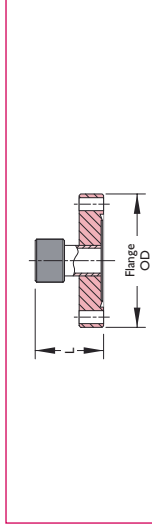
A positive seal is provided by O-ring compression. Fractional tubing OD must be circular within 0.2mm.
Note IDs are through and do not include a stop to restrict tubing insertion.

Material is 300 series stainless steel. Maximum bake-out temperature is 200°C. Quick-disconnects are easily sealed with blankoffs when not in use. Blankoffs are not included unless stated otherwise. Stainless steel and brass blankoffs are available.

CF



Tube DIA	Flange nominal	Flange OD	Nominal L	Wt. kg	Reference	Part number	£	€	SFr.
1.6 (1/16")	DN16CF	34	35	0.4	MFS-06	413000	74	109	163
1.6 (1/16")	DN40CF	70	35	0.4	FDS-06	412000	74	109	163
3.2 (1/8")	DN16CF	34	35	0.4	MFS-12	413001	69	101	152
3.2 (1/8")	DN40CF	70	35	0.4	FDS-12	412001	69	101	152
6.4 (1/4")	DN16CF	34	35	0.4	MFS-25	413003	69	101	152
6.4 (1/4")	DN40CF	70	35	0.4	FDS-25	412003	69	101	152
12.7 (1/2")	DN16CF	34	36	0.8	MFS-50	413006	73	108	161
12.7 (1/2")	DN40CF	70	36	0.8	FDS-50	412006	73	108	161
19.1 (3/4")	DN40CF	70	48	0.8	FDS-75	412008	79	116	174
22.3 (7/8")	DN40CF	70	44	0.8	FDS-87	412009	84	123	185
25.4 (1")	DN40CF	70	54	0.8	FDS-100	412010	89	130	196
28.6 (1 1/8")	DN40CF	70	54	0.8	FDS-112	412011	107	157	235
31.8 (1 1/4")	DN40CF	70	57	0.8	FDS-125	412012	112	164	246
34.9 (3/8")	DN40CF	70	60	0.8	FDS-138	412013	126	184	277
38.1 (1 1/2")	DN40CF	70	63	0.8	FDS-150	412014	135	198	297



Baseplate

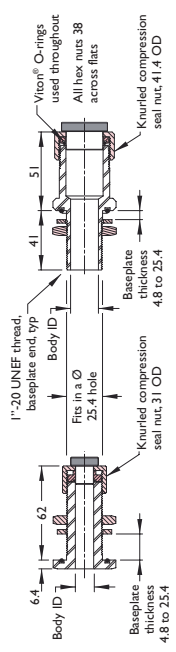


Blankoff plug not included

Tube dia.	Figure	Body ID	Seal nut nom. ID	Wt. kg	Reference	Part number	£	€	SFr.
3.2 (1/8")	1	3.4	3.0	1.0	DBF-12	650000	201	294	442
6.4 (1/4")	1	6.7	3.0	1.0	DBF-25	650001	201	294	442
9.5 (3/8")	1	9.7	3.0	1.0	DBF-38	650002	201	294	442
12.7 (1/2")	1	13.2	3.0	1.0	DBF-50	650003	201	294	442
15.9 (5/8")	1	16.6	3.0	1.0	DBF-62	650004	201	294	442
19.1 (3/4")	1	19.5	3.0	1.0	DBF-75	650005	201	294	442
25.4 (1")	2	19.3	4.1	1.0	DBF-100	650006	257	376	565

Figure 1: (1/8" to 3/4") 3.2 to 19.1 sizes

Figure 2: (1") 25.4 size only





Section 1.3 Hybrid adaptors

Fitting to flange

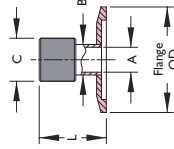
Quick-disconnect to KF

KF



Blankoff plug not included

Tube size	Nominal ref. ISO	Flange OD	A	B	C	L	Nom. Wt. kg	Reference	Part number	£	€	SFr.
1.6 (1/8")	DN16KF	30	1.7	9	13	33	0.2	K16XDS-06	734000	55	83	125
1.6 (1/8")	DN25KF	40	1.7	9	13	33	0.2	K25XDS-06	734008	55	83	125
1.6 (1/8")	DN40KF	55	1.7	9	13	33	0.2	K40XDS-06	734019	55	83	125
1.6 (1/8")	DN50KF	75	1.7	9	13	33	0.2	K50XDS-06	734034	55	83	125
3.2 (1/4")	DN16KF	30	3.0	9	13	33	0.2	K16XDS-12	734001	55	83	125
3.2 (1/4")	DN25KF	40	3.0	9	13	33	0.2	K25XDS-12	734009	55	83	125
3.2 (1/4")	DN40KF	55	3.0	9	13	33	0.2	K40XDS-12	734020	55	83	125
3.2 (1/4")	DN50KF	75	3.0	9	13	33	0.2	K50XDS-12	734035	55	83	125
6.4 (1/2")	DN16KF	30	6.6	9	16	33	0.2	K16XDS-25	734003	55	83	125
6.4 (1/2")	DN25KF	40	6.6	9	16	33	0.2	K25XDS-25	734011	55	83	125
6.4 (1/2")	DN40KF	55	6.6	9	16	33	0.2	K40XDS-25	734022	60	90	136
6.4 (1/2")	DN50KF	75	6.6	9	16	33	0.2	K50XDS-25	734037	60	90	136
12.7 (1/2")	DN16KF	30	12.9	16	22	38	0.2	K16XDS-50	734006	60	90	136
12.7 (1/2")	DN25KF	40	12.9	16	22	35	0.2	K25XDS-50	734014	60	90	136
12.7 (1/2")	DN40KF	55	12.9	16	22	35	0.2	K40XDS-50	734025	60	90	136
12.7 (1/2")	DN50KF	75	12.9	16	22	35	0.2	K50XDS-50	734040	60	90	136
19.1 (3/4")	DN25KF	30	19.3	22	25	44	0.2	K25XDS-75	734016	60	90	136
19.1 (3/4")	DN40KF	55	19.3	22	25	44	0.2	K40XDS-75	734027	60	90	136
19.1 (3/4")	DN50KF	75	19.3	22	25	44	0.2	K50XDS-75	734042	60	90	136
25.4 (1")	DN25KF	40	25.6	28	41	51	0.4	K25XDS-100	734018	70	105	159
25.4 (1")	DN40KF	55	25.6	28	41	51	0.4	K40XDS-100	734029	70	105	159
25.4 (1")	DN50KF	75	25.6	28	41	51	0.4	K50XDS-100	734044	70	105	159
31.7 (1 1/4")	DN40KF	55	32.0	38	48	54	0.4	K40XDS-125	734031	95	143	216
31.7 (1 1/4")	DN50KF	75	32.0	38	48	54	0.4	K50XDS-125	734046	95	143	216
38.1 (1 1/2")	DN40KF	55	38.3	44	57	60	0.4	K40XDS-150	734033	110	165	250
38.1 (1 1/2")	DN50KF	75	38.3	44	57	60	0.4	K50XDS-150	734048	110	165	250
50.8 (2")	DN50KF	75	51.1	57	70	63	0.4	K50XDS-200	734050	150	225	341



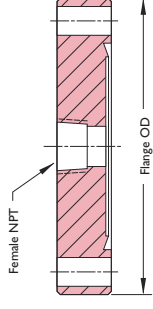
Flanges and fittings

Section 1.3 Hybrid adaptors

Fitting to flange

Female NPT to CF or KF

CF

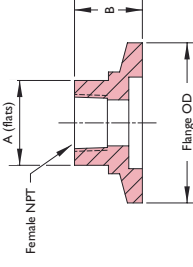


Features

- Use with Bourdon type pressure gauge, part number 432020
- Use with thermocouple gauge tubes
- Stainless steel
- Use Teflon® tape on threads (not supplied)

Female NPT size	Flange Nominal	Flange OD	Wt. kg	Reference	Part number	£	€	SFr.
3.2 (1/8")	DN16CF	34	0.1	1/8PPT-C16	7432041	23	35	52
3.2 (1/8")	DN40CF	70	0.4	1/8PPT-C40	7432043	30	45	68
6.4 (1/4")	DN16CF	34	0.1	1/4PPT-C16	7432044	23	35	52
6.4 (1/4")	DN40CF	70	0.4	1/4PPT-C40	7432046	30	45	68

KF



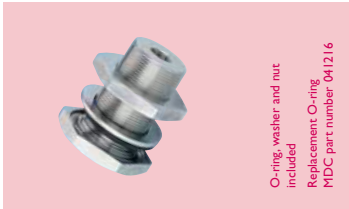
Features

- Use with Bourdon type pressure gauge, part number 432020
- Use with thermocouple gauge tubes
- Stainless steel
- Use Teflon® tape on threads (not supplied)

Female NPT size	Nominal ref. ISO	Flange OD	A	B	Wt. kg	Reference	Part number	£	€	SFr.
3.2 (1/8")	DN16KF	30	15.7	12.7	0.1	K16x1/8PPT	7731000	17	26	31
3.2 (1/8")	DN25KF	40	22.4	12.7	0.1	K25x1/8PPT	7731001	17	26	37
3.2 (1/8")	DN40KF	55	31.8	12.7	0.1	K40x1/8PPT	7731002	23	34	51
3.2 (1/8")	DN50KF	75	44.5	15.7	0.2	K50x1/8PPT	7731034	32	47	70
6.4 (1/4")	DN16KF	30	15.7	12.7	0.1	K16x1/4PPT	7731004	17	26	31
6.4 (1/4")	DN25KF	40	22.4	12.7	0.1	K25x1/4PPT	7731005	17	26	37
6.4 (1/4")	DN40KF	55	31.8	12.7	0.1	K40x1/4PPT	7731008	23	34	51
6.4 (1/4")	DN50KF	75	44.5	15.7	0.2	K50x1/4PPT	7731003	32	47	70
12.7 (1/2")	DN25KF	40	15.7	12.7	0.1	K25x1/2PPT	7731006	17	26	37
12.7 (1/2")	DN40KF	55	31.8	12.7	0.1	K40x1/2PPT	7731009	23	34	51
12.7 (1/2")	DN50KF	75	44.5	15.7	0.1	K50x1/2PPT	7731011	32	47	70
19.1 (3/4")	DN40KF	55	31.8	12.7	0.1	K40x3/4PPT	7731010	32	47	70
19.1 (3/4")	DN50KF	75	44.5	15.7	0.2	K50x3/4PPT	7731012	32	47	70

Female NTP to baseplate

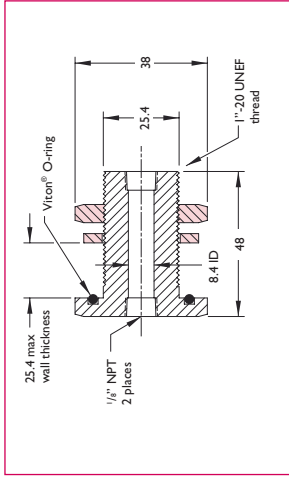
Baseplate



O-ring, washer and nut included
Replacement O-ring
MDC part number 041216

Features

- Use with thermocouple gauge or for gas backfilling
- 1/8" NPT accommodates gauges or tubing
- Fits standard 25.4 diameter mounting hole
- Seal is by Viton® O-ring
- Stainless steel
- Use Teflon® tape on threads (not supplied)



Description	Reference	Part number	£	€	SFR.
Gas backfill feedthrough	FGT-1125	653000	140	210	318

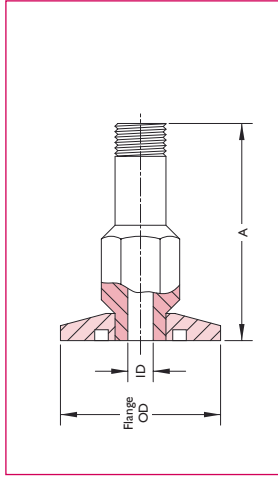
Male NPT to KF

ISO KF



Features

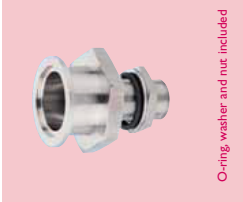
- Stainless steel
- Use Teflon® tape on threads (not supplied)



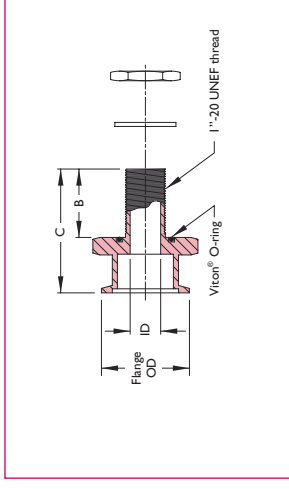
Male NPT size	Nominal ref. ISO	Flange OD	ID	A	Wt kg	Reference	Part number	£	€	SFR.
3.2 (1/8")	DN16KF	30	4.8	40.6	0.1	K16x1/8MPT	731020	39	57	86
6.4 (1/4")	DN16KF	30	7.0	40.6	0.1	K16x1/4MPT	731021	39	57	86
6.4 (1/4")	DN25KF	40	7.0	40.6	0.1	K25x1/4MPT	731023	41	60	90
6.4 (1/4")	DN40KF	55	7.0	40.6	0.1	K40x1/4MPT	731027	44	65	97
6.4 (1/4")	DN50KF	75	7.0	40.6	0.2	K50x1/4MPT	731030	46	68	101

Baseplate to ISO KF or blank plug

ISO KF



O-ring, washer and nut included

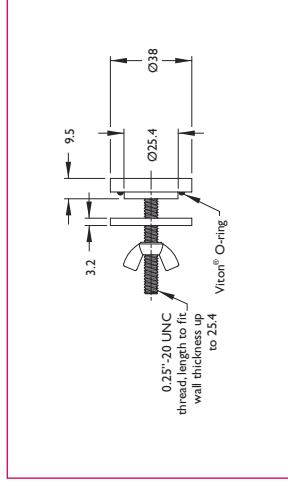


Nominal ref. ISO	Flange OD	Required hole diameter	A ID	B	C	Wt kg	Reference	Part number	£	€	SFR.
DN25KF	40	25.4	19.1	41.2	73	0.2	K25-BPFT	650007	140	210	318
DN40KF	55	25.4	19.1	41.2	82	0.4	K40-BPFT	650008	155	233	352

Blank plug



O-ring, washer and nut included



Features

- For sealing standard 25.4 diameter mounting holes when not in use
- Seal is by Viton® O-ring
- Stainless steel or brass plug

Description	Reference	Part number	£	€	SFR.
Brass blank plug	FBB-101	654000	32	47	70
Stainless steel blank plug	FBS-101	654002	56	82	123

Baseplate mounts

Baseplate fittings mount through one-inch diameter ports and require a flat, scratch-free sealing surface of at least 44.5mm diameter. A vacuum seal is achieved by uniform compression of an elastomer gasket on the vacuum side of the chamber. A sealing nut and washer are typically fastened on the atmosphere side of the chamber. Hand tightening will usually provide adequate seal compression.

Elastomer seals limit the operating temperature range and bake-out temperature. For Viton® O-rings, the maximum intermittent bake-out temperature is 200°C with a sustained use to 150°C. Repeated bake-out cycling can result in the deterioration of the O-ring.