



Glass-to-Metal Tube Adapters

7740 Pyrex® and 7052 Borosilicate glass tubes are joined to Kovar® and Stainless Steel tubular interfaces.

7740 Pyrex® and 7052 Borosilicate Glass

Ultrahigh Vacuum Compatible Materials

High temperature Fused glass-to-metal Seal

Glass-to-Metal Tube Adapters

The process used in joining borosilicate glasses 7740 Pyrex® and 7052 glass to low-expansion NiFe alloys such as Kovar®, and/or non-magnetic alloys such as 304 stainless steel, is a highly specialized technology. Accu-Glass offers a wide selection of durable and reliable high and ultrahigh vacuum glass-to-metal tubular adapters.

Our glass-to-metal adapters are available in rigid and flexible (with stainless steel bellows) configurations and fitted with industry standard ISO or CF vacuum flange mounts. These adapters are designed for simple and reliable installation of 'tubular' laboratory glass instruments onto 'metallic' high and ultrahigh vacuum systems and/or the attachment of standard metal vacuum components onto glass laboratory apparatus.

Single and double-ended flanged configurations with open, closed, rigid and flexible interfaces are available. Single ended devices have either open or closed (domed) glass tube terminations on the end opposite the vacuum flange mount.

UHV rated adapters are fitted with Conflat® compatible, metal seal CF flanges, while HV rated devices use standard, elastomer seal, quick-release ISO flanges.

Features

- 1/2 to 2-1/2 Inch Glass Tube Diameters
- Open, Closed, Rigid or Flexible Interface
- 7740 Pyrex® and 7052 Borosilicate Glass
- Stainless Steel and Kovar® sleeves
- Conflat® and ISO NW compatible mounts
- Custom Solutions on Request

Specifications

Material

Flange	304 Stainless Steel
Bellows	304 Stainless Steel
Tube, Metal	Kovar® or 304 Stainless Steel
Tube, Borosilicate Glass	7740 Pyrex® or 7052

Vacuum Range ¹

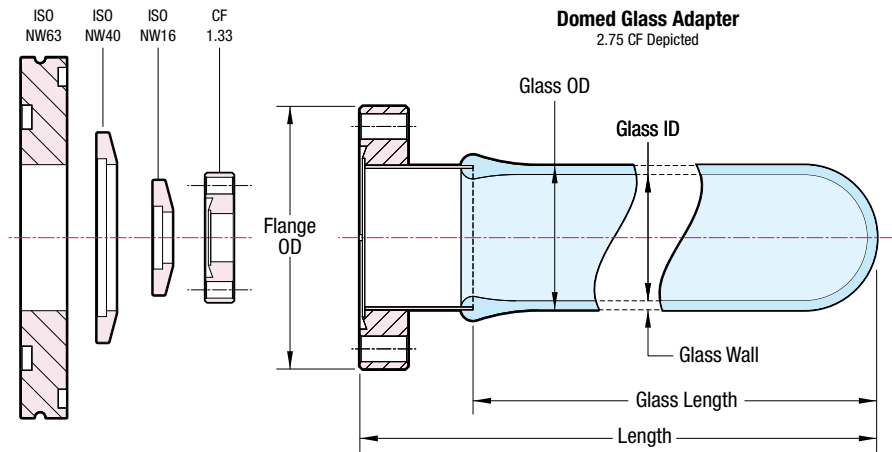
UHV, Ultrahigh vacuum	1x10 ⁻¹⁰ Torr
HV, High vacuum	1x10 ⁻⁸ Torr

Temperature Range ²

Glass-to-Metal Interface	400°C
Conflat® Flange Mount	450°C
ISO Flange Mount	150°C
Thermal Gradient	10°C / Minute Maximum

Notes

1. Leak tested to 5x10⁻¹⁰ Standard cc/sec of He.
 2. Overall assembly ratings must be adjusted to that of its lowest rated component.
- § Unless specified otherwise, dimensional units in all sections of this catalog are expressed in inches.



211001 / UHV 3/4" Domed Glass Tube mounted on 1.33 CF Flange

CF Flange¹ — Single-Flange 'Domed' Glass Adapters / UHV to 1×10^{-10} Torr

Glass OD	Flange Type	Flange OD	Overall Length	Glass Length	Glass ID	Glass Thickness	Model Number	Part Number	Unit Price \$
7052 Glass to Kovar[®] — 400°C / Magnetic									
1/2	133CF	1.33	6.00	4.75	0.31	0.047	KGD-050-133	211000	210
3/4	133CF	1.33	6.00	4.75	0.56	0.047	KGD-075-133	211001	210
1-1/2	275CF	2.73	6.00	4.75	1.31	0.079	KGD-150-275	211002	315
2-1/2	450CF	4.47	6.00	4.25	2.18	0.094	KGD-250-450	211003	698



211006 / UHV 1-1/2" Domed Glass Tube mounted on 2.75 CF Flange

7740 Pyrex[®] to 304 Stainless Steel — 450°C / Non-Magnetic

1/2	133CF	1.33	6.62	4.75	0.31	0.047	SPD-050-133	211004	290
3/4	133CF	1.33	6.62	4.75	0.56	0.047	SPD-075-133	211005	290
1-1/2	275CF	2.73	6.62	4.75	1.31	0.079	SPD-150-275	211006	375
2-1/2	450CF	4.47	6.62	4.25	2.18	0.094	SPD-250-450	211007	790

1. Compatible with Coniflat[®] flanges / Glass length is nominal $\pm 1/8$ Inch

ISO KF/LF Flange¹ — Single-Flange 'Domed' Glass Adapters / 150°C / HV to 1×10^{-8} Torr

Glass OD	Flange Type	Flange OD	Overall Length	Glass Length	Glass ID	Glass Thickness	Model Number	Part Number	Unit Price \$
7052 Glass to Kovar[®] — Magnetic									
1/2	NW16	1.18	6.00	4.75	0.31	0.047	KGD-050-K16	211008	210
3/4	NW16	1.18	6.00	4.75	0.56	0.047	KGD-075-K16	211009	210
1-1/2	NW40	2.16	6.00	4.75	1.31	0.079	KGD-150-K40	211010	315
2-1/2	NW63	3.74	6.00	4.25	2.18	0.094	KGD-250-L63	211011	698
7740 Pyrex[®] to 304 Stainless Steel — Non-Magnetic									
1/2	NW16	1.18	6.62	4.75	0.31	0.047	SPD-050-K16	211012	290
3/4	NW16	1.18	6.62	4.75	0.56	0.047	SPD-075-K16	211013	290
1-1/2	NW40	2.16	6.62	4.75	1.31	0.079	SPD-150-K40	211014	375
2-1/2	NW63	3.74	6.62	4.25	2.18	0.094	SPD-250-L63	211015	790

1. Compatible with ISO 2861/1 flange specifications / Glass length is nominal $\pm 1/8$ Inch



211008 / HV 3/4" Domed Glass Tube mounted on ISO NW16 KF Flange

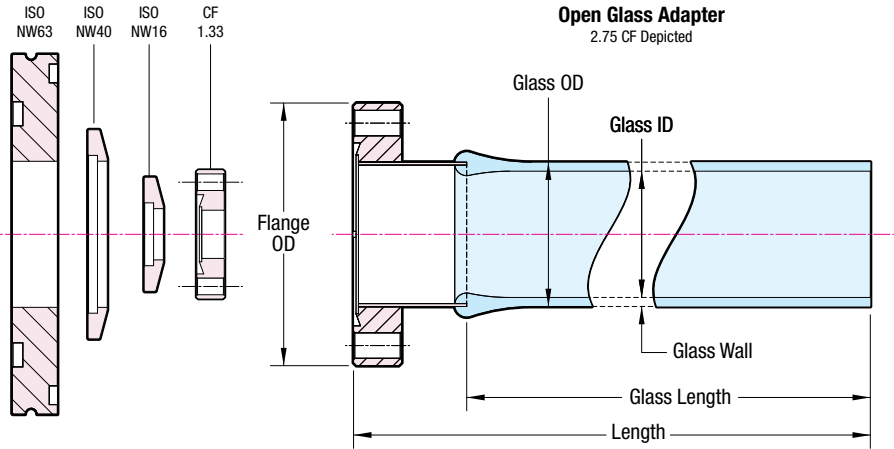


211014 / HV 1-1/2" Domed Glass Tube mounted on ISO NW40 KF Flange

Glass Adapters



211017 / UHV 3/4" Open Glass Tube mounted on 1.33 CF Flange



Open Glass Adapter
2.75 CF Depicted

CF Flange¹ — Single-Flange, Open Glass Adapters / UHV to 1x10⁻¹⁰ Torr

Glass OD	Flange Type	Flange OD	Overall Length	Glass Length	Glass ID	Glass Thickness	Model Number	Part Number	Unit Price \$
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7740 Pyrex[®] to Kovar[®] — 400°C / Magnetic

1/2	133CF	1.33	5.37	4.12	0.31	0.047	KPO-050-133	211016	145
3/4	133CF	1.33	5.37	4.12	0.56	0.047	KPO-075-133	211017	145
1-1/2	275CF	2.73	5.37	4.12	1.31	0.079	KPO-150-275	211018	250
2-1/2	450CF	4.47	7.50	5.75	2.18	0.094	KPO-250-450	211019	575

7740 Pyrex[®] to 304 Stainless Steel — 450°C / Non-Magnetic

1/2	133CF	1.33	4.87	3.00	0.31	0.047	SPO-050-133	211020	160
3/4	133CF	1.33	4.87	3.00	0.56	0.047	SPO-075-133	211021	175
1-1/2	275CF	2.73	4.87	3.00	1.31	0.079	SPO-150-275	211022	265
2-1/2	450CF	4.47	5.37	3.00	2.31	0.094	SPO-250-450	211023	490

1. Compatible with Conflat[®] flanges / Glass length is nominal ±1/8 Inch

ISO KF/LF Flange¹ — Single-Flange, Open Glass Adapters / 150°C / HV to 1x10⁻⁸ Torr

Glass OD	Flange Type	Flange OD	Overall Length	Glass Length	Glass ID	Glass Thickness	Model Number	Part Number	Unit Price \$
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7740 Pyrex[®] to Kovar[®] — Magnetic

1/2	NW16	1.18	5.37	4.12	0.31	0.047	KPO-050-K16	211024	145
3/4	NW16	1.18	5.37	4.12	0.56	0.047	KPO-075-K16	211025	145
1-1/2	NW40	2.16	5.37	4.12	1.31	0.079	KPO-150-K40	211026	250
2-1/2	NW63	3.74	7.50	5.75	2.31	0.094	KPO-250-L63	211027	575

7740 Pyrex[®] to 304 Stainless Steel — Non-Magnetic

1/2	NW16	1.18	4.87	3.00	0.31	0.047	SPO-050-K16	211028	160
3/4	NW16	1.18	4.87	3.00	0.56	0.047	SPO-075-K16	211029	175
1-1/2	NW40	2.16	4.87	3.00	1.31	0.079	SPO-150-K40	211030	265
2-1/2	NW63	3.74	5.37	3.00	2.31	0.094	SPO-250-L63	211031	490

1. Compatible with ISO 2861/1 flange specifications / Glass length is nominal ±1/8 Inch



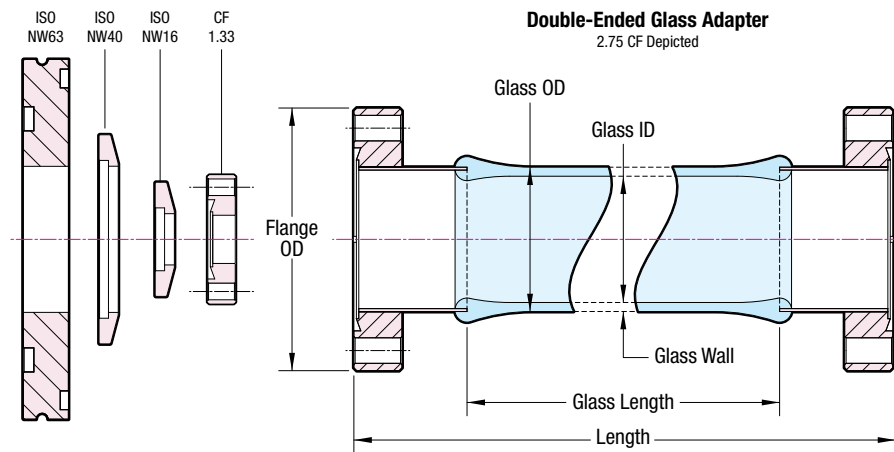
211018 / UHV 1-1/2" Open Glass Tube mounted on 2.75 CF Flange



211025 / HV 3/4" Open Glass Tube mounted on ISO NW16 KF Flange



211026 / HV 1-1/2" Open Glass Tube mounted on ISO NW40 KF Flange



211051 / UHV 3/4" Open Glass Tube
Dual 1.33 CF Flange



211052 / UHV 1-1/2" Open Glass Tube
Dual 2.75 CF Flange



211059 / HV 3/4" Open Glass Tube
Dual ISO NW16 KF Flange



211060 / HV 1-1/2" Open Glass Tube
Dual ISO NW40 KF Flange

CF Flange¹ — Dual-Flange, Open Glass Adapters / 400°C / UHV to 1x10⁻¹⁰ Torr

Glass OD	Flange Type	Flange OD	Overall Length	Glass Length	Glass ID	Glass Thickness	Model Number	Part Number	Unit Price \$
1/2	133CF	1.33	3.00	1.00	0.31	0.047	KGK-050-133	211050	360
3/4	133CF	1.33	3.00	1.00	0.56	0.047	KGK-075-133	211051	360
1-1/2	275CF	2.73	3.00	1.00	1.31	0.079	KGK-150-275	211052	510
2-1/2	450CF	4.47	4.50	1.75	2.18	0.094	KGK-250-450	211053	885

7740 Pyrex® to 304 Stainless Steel — 450°C / Non-Magnetic

1/2	133CF	1.33	4.37	1.00	0.31	0.047	SPS-050-133	211054	405
3/4	133CF	1.33	4.37	1.00	0.56	0.047	SPS-075-133	211055	405
1-1/2	275CF	2.73	4.37	1.00	1.31	0.079	SPS-150-275	211056	570
2-1/2	450CF	4.47	5.12	1.00	2.31	0.094	SPS-250-450	211057	1140

1. Compatible with Coniflat® flanges / Glass length is nominal ±1/8 Inch

ISO KF/LF Flange¹ — Dual-Flange, Open Glass Adapters / 150°C / HV to 1x10⁻⁸ Torr

Glass OD	Flange Type	Flange OD	Overall Length	Glass Length	Glass ID	Glass Thickness	Model Number	Part Number	Unit Price \$
1/2	NW16	1.18	3.00	1.00	0.31	0.047	KGK-050-K16	211058	360
3/4	NW16	1.18	3.00	1.00	0.56	0.047	KGK-075-K16	211059	360
1-1/2	NW40	2.16	3.00	1.00	1.31	0.079	KGK-150-K40	211060	510
2-1/2	NW63	3.74	4.50	1.75	2.31	0.094	KGK-250-L63	211061	885

7740 Pyrex® to 304 Stainless Steel — Non-Magnetic

1/2	NW16	1.18	4.37	1.00	0.31	0.047	SPS-050-K16	211062	405
3/4	NW16	1.18	4.37	1.00	0.56	0.047	SPS-075-K16	211063	405
1-1/2	NW40	2.16	4.37	1.00	1.31	0.079	SPS-150-K40	211064	570
2-1/2	NW63	3.74	5.12	1.00	2.31	0.094	SPS-250-L63	211065	1140

1. Compatible with ISO 2861/1 flange specifications / Glass length is nominal ±1/8 Inch



211071 / UHV 3/4" Flexible / Open Glass Tube mounted on 1.33 CF Flange



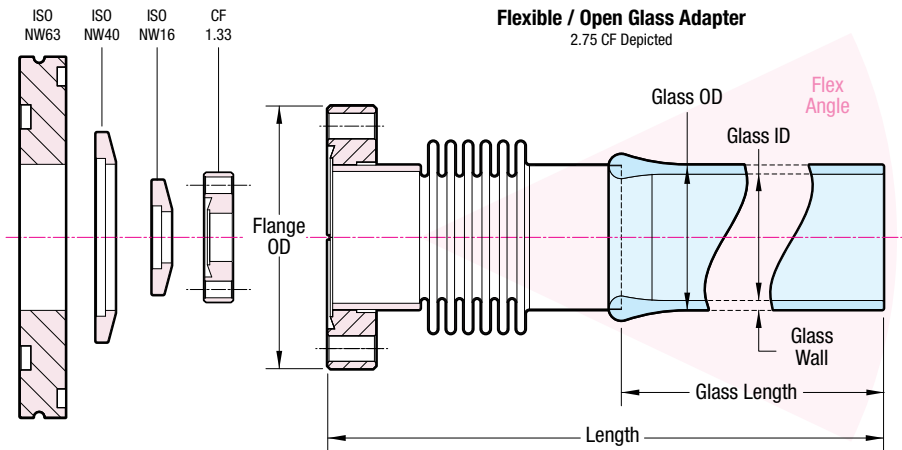
211072 / UHV 1-1/2" Flexible / Open Glass Tube mounted on 2.75 CF Flange



211075 / HV 3/4" Flexible / Open Glass Tube mounted on ISO NW16 KF Flange



211076 / HV 1-1/2" Flexible / Open Glass Tube mounted on ISO NW40 KF Flange



CF Flange¹ — Single-Flange, Flexible / Open Glass Adapters / 450°C / UHV to 1x10⁻¹⁰ Torr

Glass OD	Flange Type	Flange OD	Overall Length	Glass Length	Glass ID	Flex Angle	Model Number	Part Number	Unit Price \$
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7740 Pyrex[®] to 304 Stainless Steel — Non-Magnetic

1/2	133CF	1.33	6.12	3.00	0.31	45°	SPBF-050-133	211070	215
3/4	133CF	1.33	6.12	3.00	0.56	30°	SPBF-075-133	211071	250
1-1/2	275CF	2.73	6.12	3.00	1.31*	15°	SPBF-150-275	211072	315
2-1/2	450CF	4.47	6.12	3.00	2.31	10°	SPBF-250-450	211073	600

1. Compatible with Conflat[®] flanges / Glass length is nominal ±1/8 Inch / * Bellows ID is 1.25 nominal

ISO KF/LF Flange¹ — Single-Flange, Flexible / Open Glass Adapters / 150°C / HV to 1x10⁻⁸ Torr

Glass OD	Flange Type	Flange OD	Overall Length	Glass Length	Glass ID	Flex Angle	Model Number	Part Number	Unit Price \$
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7740 Pyrex[®] to 304 Stainless Steel — Non-Magnetic

1/2	NW16	1.18	6.12	3.00	0.31	45°	SPBF-050-K16	211074	215
3/4	NW16	1.18	6.12	3.00	0.56	30°	SPBF-075-K16	211075	245
1-1/2	NW40	2.16	6.12	3.00	1.31*	15°	SPBF-150-K40	211076	310
2-1/2	NW63	3.74	6.12	3.00	2.31	10°	SPBF-250-L63	211077	595

1. Compatible with ISO 2861/1 flange specifications / Glass length is nominal ±1/8 Inch / * Bellows ID is 1.25 nominal

