



### Demountable Substrate Viewports

Demountable substrate facilitates cleaning and/or subsequent AR coating.

Demountable Glass or Quartz Substrate

High Vacuum Compatible Materials

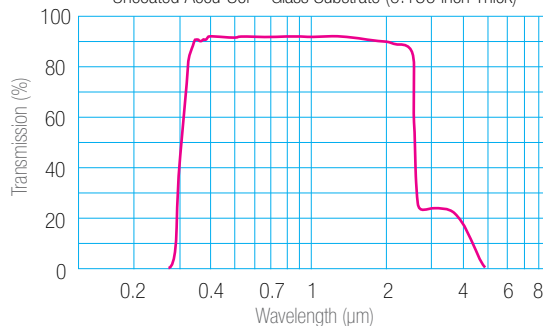
High Vacuum Elastomer O-ring Seal

### Demountable Glass and Quartz Viewports

Accu-Glass' demountable high transmission glass and quartz viewports are an economical "alternative" to typical fused glass or brazed quartz viewports. Transmission is greater than 90% over the 350nm to 1500nm wavelength range. Removable Accu-Sol™ glass and quartz substrates allows for subsequent application of optical coatings and viewport cleaning. For high temperature applications up to 250°C, Kalrez® elastomer O-ring seals are recommended. Demountable substrate viewports employ a unique recessed zero profile design... providing the widest viewing angles and maximum protection to glass and quartz substrates.

Transmission Curve

Uncoated Accu-Sol™ Glass Substrate (0.159 inch Thick)



### Features

- High transmission Glass or Quartz
- High Temperature rated to 150°C or up to 250°C with Kalrez® O-rings
- Stainless steel / aluminum construction
- Conflat® and ISO NW compatible mounts
- Custom Solutions on Request

### Specifications

#### Material

Flange	304 Stainless Steel
Window Retainer	Aluminum
Glass Substrate	Accu-Sol™ Glass
Quartz Substrate	Synthetic Fused Silica SiO <sub>2</sub>
Elastomer Seals	Viton® Fluoropolymer Kalrez® Perfluoropolymer

#### Vacuum Range<sup>2</sup>

HV, High vacuum	1x10 <sup>-8</sup> Torr
-----------------	-------------------------

#### Temperature Range<sup>2</sup>

Elastomer O-ring Seal	
Viton®	-20 to 150°C
Kalrez® 4079	-20 to 250°C
Conflat® Flange Mount (without seal or glass)	450°C
ISO Flange Mount	150°C
Thermal Gradient	20°C / Minute Maximum

#### Transmission Range<sup>3</sup>

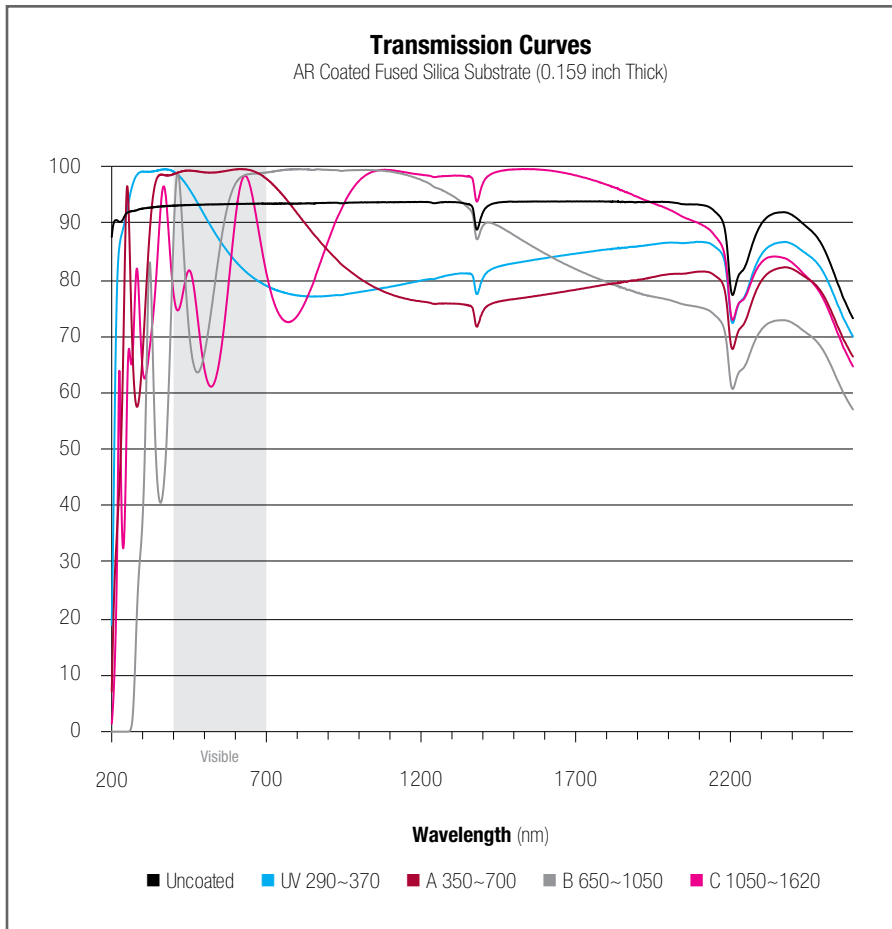
Accu-Sol™ Glass	
305~2100nm	>90%
2100~2680nm	>80%
< 40-20 scratch-dig finish on both faces	

#### Transmission Range / BBAR Coated Fused Silica<sup>3</sup>

290~370nm, UV	>99%
350~700nm, Type-A	>99%
650~1050nm, Type-B	>99%
1050~1620nm, Type-C	>99%
200~2000nm, Uncoated	(average) 70~95%

### Notes

1. Leak tested to 5x10<sup>-10</sup> Standard cc/sec of He.
  2. Overall assembly ratings must be adjusted to that of its lowest rated component.
  3. Transmission curves are provided for reference only. Transmission for individual viewports may vary based on thicknesses, surface finish and/or other condition. Windows with BBAR (broadband antireflective) coatings are coated on both substrate surfaces.
- § Unless specified otherwise, dimensional units in all sections of this catalog are expressed in inches.



**112901** / HV Fused Silica Viewport mounted on 2.75 CF Flange



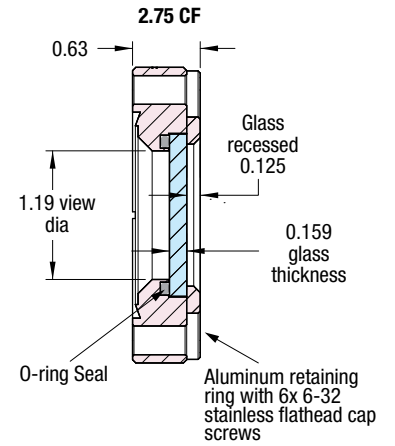
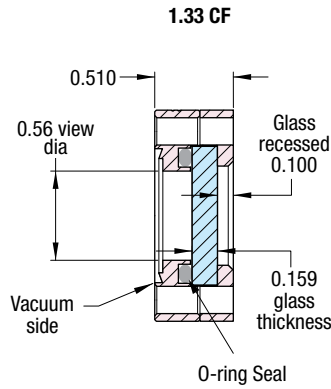
**112906** / HV Fused Silica Viewport mounted on ISO NW40 KF Flange

Accu-Glass' broadband anti-reflection coated viewports (BBAR) incorporate, precision ground, demountable UV grade fused silica windows that are ideal for use at high vacuum (HV) pressures. These viewports utilize Viton® O-ring elastomer seals to create an air-tight metal/glass seal suitable for pressures down to  $10^{-8}$  Torr. Window substrates are interchangeable, allowing the user the ability to swap out vacuum windows mounted in our HV CF flanges should cleaning or an alternate AR coating be required.

Windows are available uncoated (185~2100 nm) or with one of four low-loss broadband anti-reflection coatings. Coatings are deposited on both optical surfaces and are optimized for the following ranges: UV (290~370 nm), A (350~700 nm), B (650~1050 nm), and C (1050~1620 nm). While uncoated windows have typical losses of about 4% per surface, the AR coatings reduce this to  $R_{avg} < 0.5\%$ . We have designed these AR coatings for angles of incidence between  $0^\circ$  and  $30^\circ$ .



**112666** / HV Glass Viewport mounted on 1.33 CF Flange



### CF Flange<sup>1</sup> — Demountable Substrate Viewports / 150°C / HV to 1x10<sup>-8</sup> Torr

View Diameter	Flange Type	Flange OD	Window Thickness	AR <sup>2</sup> Coating	Spectral <sup>3</sup> Range nm	Model Number	Part Number	Unit Price \$
---------------	-------------	-----------	------------------	-------------------------	--------------------------------	--------------	-------------	---------------

#### Accu-Sol™ — Glass Viewports

0.56	133CF	1.33	0.159	No	350-2680	VPD-0.56-133	<b>112666</b>	105
1.19	275CF	2.73	0.159	No	350-2680	VPD-1.19-275	<b>112667</b>	115

#### Quartz — UV Grade Fused Silica Viewports

1.19	275CF	2.73	0.159	No	200-2000	VPD-UN-275	<b>112900</b>	214
1.19	275CF	2.73	0.159	UV	290-370	VPD-UV-275	<b>112901</b>	229
1.19	275CF	2.73	0.159	A	350-700	VPD-A-275	<b>112902</b>	244
1.19	275CF	2.73	0.159	B	650-1050	VPD-B-275	<b>112903</b>	244
1.19	275CF	2.73	0.159	C	1050-1620	VPD-C-275	<b>112904</b>	244

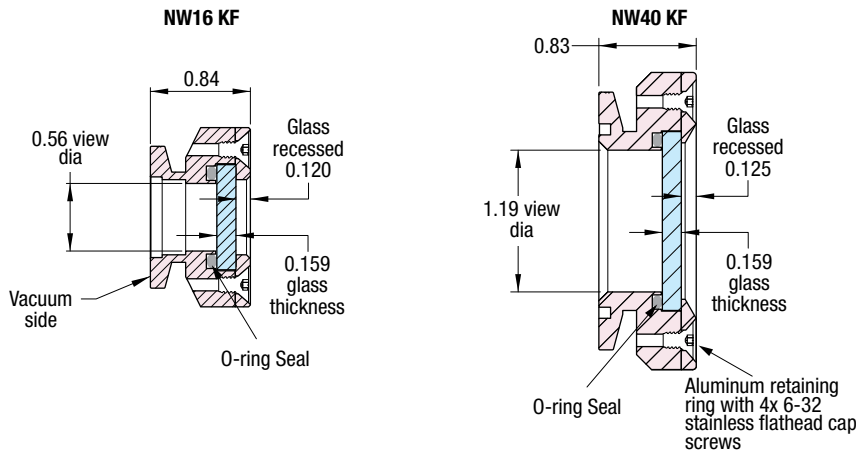
1. Compatible with Conflat<sup>®</sup> flanges and hardware. 2. AR coating applied to both substrate surfaces. 3. See table page 143 for coating transmission curves.



**112667** / HV Glass Viewport mounted on 2.75 CF Flange



**112671, 112673** / Accu-Sol™ Replacement Glass and Elastomer O-ring Seal. See page 145



**112668** / HV Glass Viewport mounted on NW16 KF ISO Flange

**ISO KF Flange<sup>1</sup> — Demountable Substrate Viewports / 150°C / HV to 1x10<sup>-8</sup> Torr**

View Diameter	Flange Type	Flange OD	Window Thickness	AR <sup>2</sup> Coating	Spectral <sup>3</sup> Range nm	Model Number	Part Number	Unit Price \$
---------------	-------------	-----------	------------------	-------------------------	--------------------------------	--------------	-------------	---------------

**Accu-Sol™ — Glass Viewports**

0.56	NW16 KF	1.18	0.159	No	350-2680	VPD-0.56-K16	<b>112668</b>	100
1.19	NW40 KF	2.16	0.159	No	350-2680	VPD-1.19-K40	<b>112669</b>	115

**Quartz — UV Grade Fused Silica Viewports**

1.19	NW40 KF	2.16	0.159	No	200-2000	VPD-UN-K40	<b>112905</b>	214
1.19	NW40 KF	2.16	0.159	UV	290-370	VPD-UV-K40	<b>112906</b>	229
1.19	NW40 KF	2.16	0.159	A	350-700	VPD-A-K40	<b>112907</b>	244
1.19	NW40 KF	2.16	0.159	B	650-1050	VPD-B-K40	<b>112908</b>	244
1.19	NW40 KF	2.16	0.159	C	1050-1620	VPD-C-K40	<b>112909</b>	244

1. Compatible with ISO 2861/1 specification flanges and hardware 2. AR coating applied to both substrate surfaces. 3. See table page 143 for coating transmission curves.

**Replacement Parts<sup>1</sup> — Replacement Accu-Sol™ / Quartz Substrates and Seals**

View Diameter	Fits Flange Type	Window Thickness	AR <sup>2</sup> Coating	Spectral Range nm	Model Number	Part Number	Unit Price \$
---------------	------------------	------------------	-------------------------	-------------------	--------------	-------------	---------------

**Glass — Accu-Sol™ Glass Substrates**

0.56	133CF / NW16 KF	.159	No	350-2680	ACCU-SOL-0.56	<b>112670</b>	40
1.19	275CF / NW40 KF	.159	No	350-2680	ACCU-SOL-1.19	<b>112671</b>	45

**Quartz — UV Grade Fused Silica Substrates**

1.19	275CF / NW40 KF	.159	No	200-2000	VPD-ARCQ-UN	<b>112910</b>	109
1.19	275CF / NW40 KF	.159	UV	290-370	VPD-ARCQ-UV	<b>112911</b>	124
1.19	275CF / NW40 KF	.159	A	350-700	VPD-ARCQ-A	<b>112912</b>	139
1.19	275CF / NW40 KF	.159	B	650-1050	VPD-ARCQ-B	<b>112913</b>	139
1.19	275CF / NW40 KF	.159	C	1050-1620	VPD-ARCQ-C	<b>112914</b>	139

**Seals — Viton® and Kalrez® 4079 Elastomer O-ring Seals**

0.56	133CF / NW16 KF	Viton®		VPD-0.56V-ORING	<b>112672</b>	3
1.19	275CF / NW40 KF	Viton®		VPD-1.19V-ORING	<b>112673</b>	3
0.56	133CF / NW16 KF	Kalrez® 4079		VPD-0.56K-ORING	<b>112691</b>	79
1.19	275CF / NW40 KF	Kalrez® 4079		VPD-1.19K-ORING	<b>112692</b>	129

1. Compatible with Accu-Sol™ glass and quartz demountable products. 2. AR coating applied to both substrate surfaces.



**112669** / HV Glass Viewport mounted on NW40 KF ISO Flange



**112671, 112673** / Accu-Sol™ Replacement Glass and Elastomer O-ring Seal