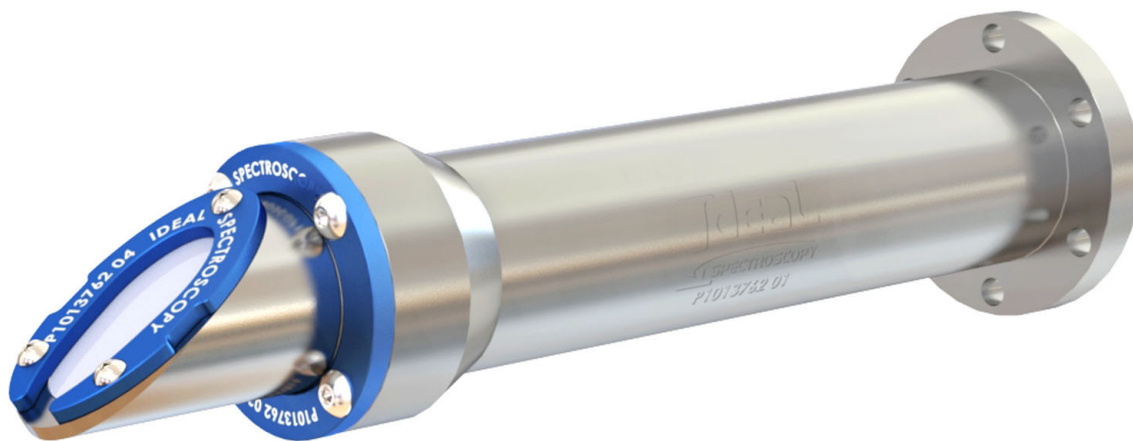




OUR PRODUCTS DEVELOP TOMORROW'S TECHNOLOGIES™

Optical Arm for Coupling Laser Light into a Chamber including Baffle Kit

Standard Product Assembly Manual (SPAM)



Part Numbers: P1013762 & P1013763

BEFORE YOU BEGIN - IMPORTANT INFORMATION



Prepare a clean surface on which to work and gather all needed tools and supplies.

Check the parts list (below) and the exploded views (following page) to make sure you have all the parts required. If you are missing any parts, please contact us (info@idealtvac.com) for replacements.



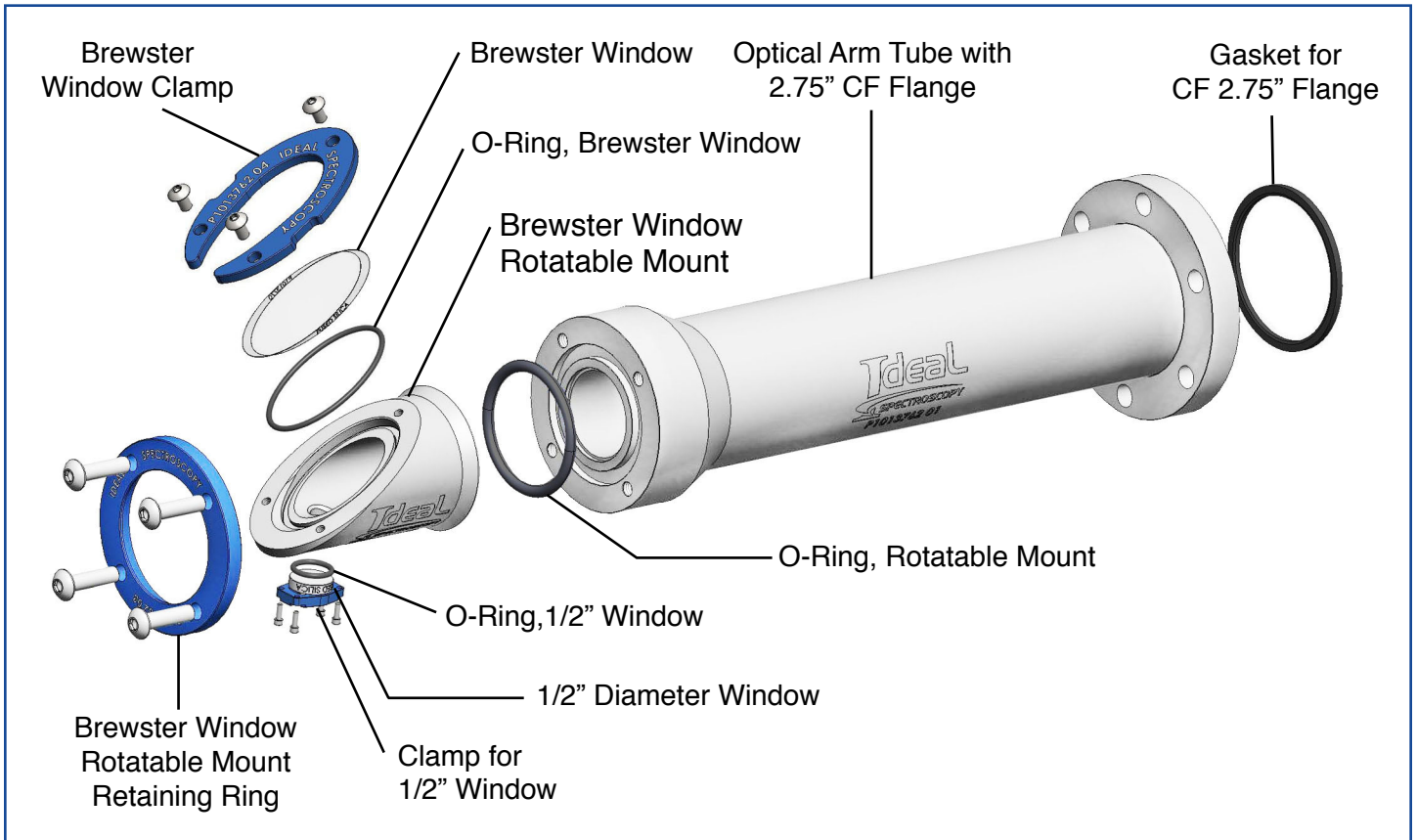
Use IPA and a lint free cloth to wipe down all parts (except optics) before, during, and after assembly.

✓	NEEDED
	Gloves
	Safety glasses
	SAE hex wrench set
	Isopropyl Alcohol (IPA)
	Lint free cloth

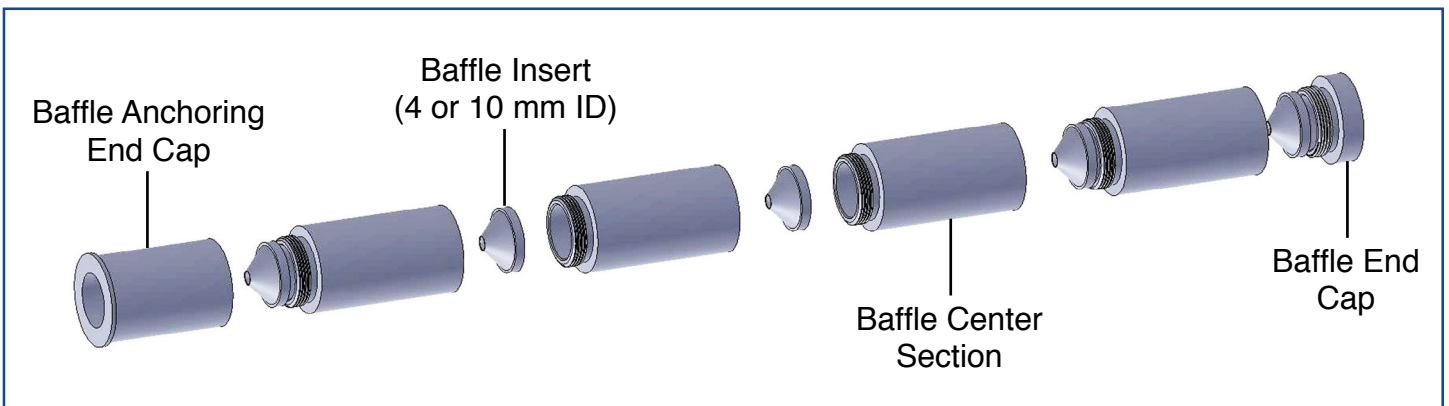
PARTS LIST

PART NUMBER	DESCRIPTION	QTY.
Optical Arm Kit		
P1013762 01	Optical Arm Tube with 2.75" CF Flange, 6061-T6	1
P1013762 02	Brewster Window Rotatable Mount, 6061-T6	1
P1013762 03	Brewster Window Rotatable Mount Retaining Ring	1
P1013762 04	Brewster Window (Horseshoe) Clamp, Anodized Blue, 6061-T6	1
P1013762 05	Clamp for 1/2" Window, Anodized Blue, 6061-T6	1
P1013770	Fused Silica Brewster Window, 25.0 mm Minor Diameter, x 2.0 mm Thick	1
P1013849	Fused Silica Window, 1/2" Diameter x 3.0 mm Thick	1
P1013768	Viton O-Ring, Rotatable Mount Seal, V-219-75A	1
P1013769	Viton O-Ring, Brewster Window Seal, V-026-75A	1
P104341	Viton Gasket for Conflat CF 2.75" Flange, VG-0275-5	1
V-012-75A	Viton O-Ring for 1/2" Lens	1
92196A054	18-8 SS Socket Head Cap Screw, 0-80 x 3/16" Long	4
92949A144	18-8 SS Button Head Hex Drive Screw, 6-32 x 1/4" Long	3
92949A265	18-8 SS Hex Drive Rounded Head Screw, 10-32 x 1/2" Long	4
GC-00-001	"Where is the Manual Card"	1
Baffle Kit (Optional)		
P1013763 01	Baffle Anchoring End Cap, 6061-T6	1
P1013763 02	Baffle Center Section, 6061-T6, Black Anodized	4
P1013763 03	Baffle End Cap, 6061-T6, Black Anodized	1
P1013763 04	Baffle Insert, 4 mm ID Aperature, 6061-T6, Black Anodized	5
P1013763 05	Baffle Insert, 10 mm ID Aperature, 6061-T6, Black Anodized	5

EXPLODED VIEWS



Exploded view of Optical Arm showing components and general assembly



Exploded view of (optional) baffle kit showing components and general assembly



STEP 1

If you have opted for the optional baffle kit (**P1013763**), assembly it first.

Otherwise, proceed to [Step 6, p. 6](#).

Insert a 4mm baffle insert (**P1013763 04**) or a 10 mm baffle insert (**P1013763 05**), cone down (towards the flange), into the baffle anchoring end cap (**P1013763 01**).



STEP 2

Screw a baffle center section (**P1013763 02**) into the baffle anchoring end cap.

Make it finger tight.

STEP 3

Insert another baffle cone into the end of the section, cone end towards the anchor end cap.

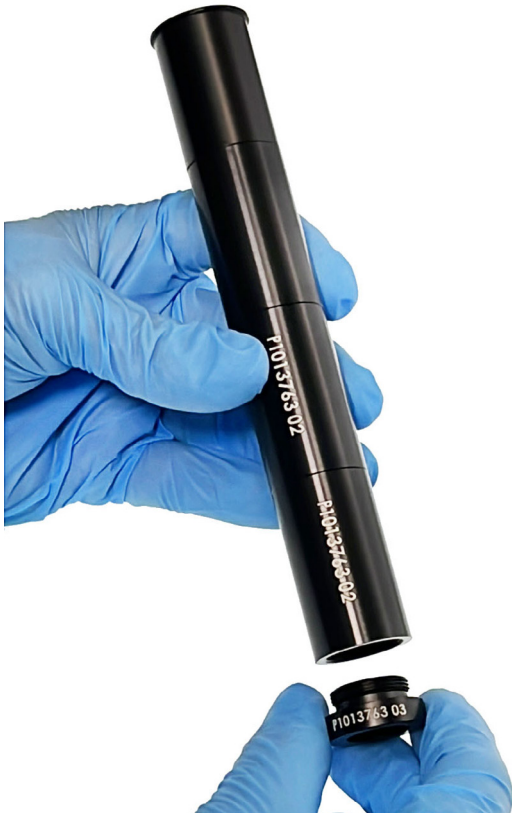
Screw down another center section.

Repeat until all the cones and center sections are used.



STEP 4

Once all the sections are assembled, screw the baffle end cap (**P1013763 03**) on to the end of the assembly.



STEP 5

Holding the baffle assembly by the anchoring end cap flange, insert the completed baffle assembly into the groove end of the optical arm tube (**P1013762 01**).

Put the tube aside temporarily.



STEP 6

Place the blue Brewster window rotatable mount retaining ring (**P1013762 03**) over the Brewster rotatable mount (**P1013762 02**).



STEP 7

Fit the thin Brewster window O-ring (P1013769) into the Brewster rotatable mount's groove.



STEP 8

Carefully unwrap the Brewster's window (P1013770) and place it in the mount.





STEP 9

Using a 5/64" hex wrench, screw down the blue Brewster window (horseshoe) clamp (**P1013762 04**) with three 6-32 x 1/4" long button head screws (**92949A144**).

Tighten each screw a little at a time to evenly tighten the clamp to the window.

Use the long arm of the hex wrench only and don't make more than finger tight. The seal is not improved by over tightening the screws.



STEP 10

Turn the mount assembly over on to the Brewster horseshoe clamp to expose the opening for the 1/2" window.

Place the O-ring for 1/2" window (**V-012-75A**) into the opening's groove.

STEP 11

Carefully unwrap the 1/2" diameter window (P1013849) and place it over the O-ring.



STEP 12

Put four 0-80 x 3/16" long socket head cap screws (92196A054) into the blue clamp for 1/2" window (P1013762 05).





STEP 13

Using a 0.50" hex wrench, screw down the clamp with the four 0-80 x 3/16" long screws.

Tighten each screw a little at a time in a diagonal pattern to evenly tighten the clamp to the window.

Use the long arm of the hex wrench only. Do not tighten with the short end of the hex wrench!

Tighten to light finger tight only. The seal is not improved by over tightening the screws.



STEP 14

Place the rotatable mount O-ring seal (**P1013768**) into the groove at the end of the optical arm tube.

STEP 15

Get the Brewster rotatable mount assembly and place it on top of the optical arm tube.

Align the holes in the rotatable ring to those in the tube.



STEP 16

Using a 1/8" hex wrench, screw the rotatable Brewster window assembly to the tube using the four 10-32 x 1/2" long button head hex screws (92949A265).

Tighten each screw a little at a time in a diagonal pattern to evenly tighten the ring.

Use the long arm of the hex wrench only. Tighten until screws are snug. The seal is not improved by over tightening the screws.



STEP 17



To mount the optical arm to a Conflat CF 2.75" flange, place the supplied Viton gasket (**P104341**) on to the flange end of the tube.

For mounting to Ideal Vacuum Cube plates with machined ports, use screw kit **P104404** which has silver-plated, 12 point screws and washers.

For mounting to other CF ports, use bolt kit **P104378**, which has through bolts, washers, and platenuts.

STEP 18



Once the optical arm is mounted, the Brewster mount may be rotated by loosening the four rotatable ring mounting screws, rotating the mount to the preferred position, then retightening the screws.