

Assembling the Nikon Cube

A Quick How-to Guide for Nikon Cube
TE2000



Semrock a Unit
of IDEX
The Standard in Optical Filters for Biotech & Analytical Instrumentation

Figure 6.1-1

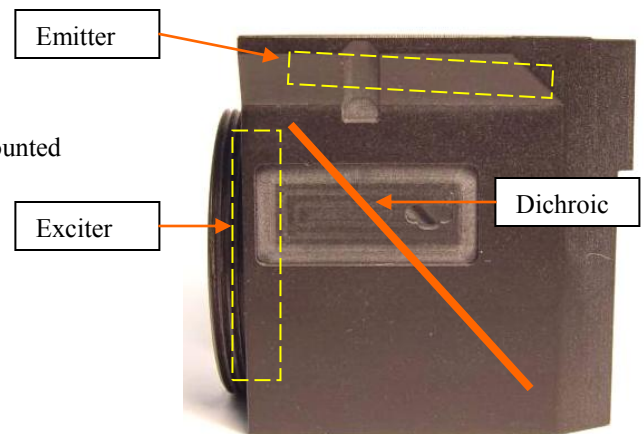


Step	Action
1.1	Install the Semrock Filter Set
1.1.1	The diagram below illustrates a cross section of the Nikon NTE cube for use in orienting and installing the Exciter, Dichroic and Emitter filters into the cube assembly. The cross section is for reference only to illustrate filter position and orientation.

Filter Positions

The Emitter is located at the top of the cube assembly. Notice it is mounted at a slight angle.

The Exciter is located at the left side and the Dichroic is mounted diagonally at the center of the cube.



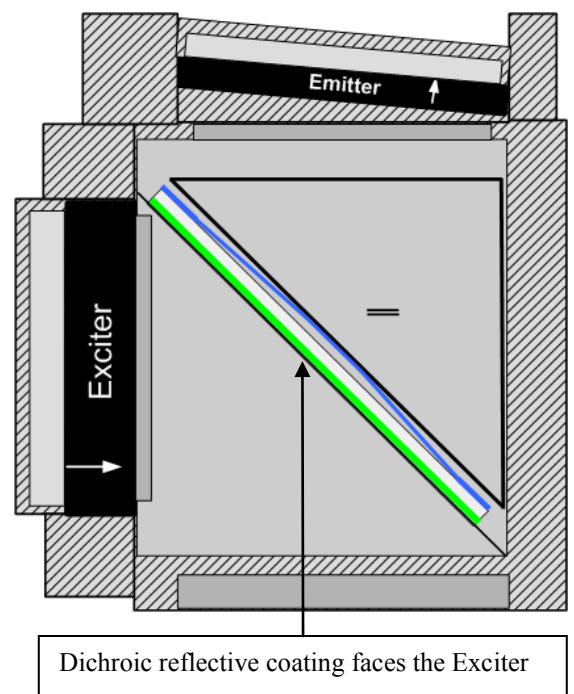
Filter Orientation

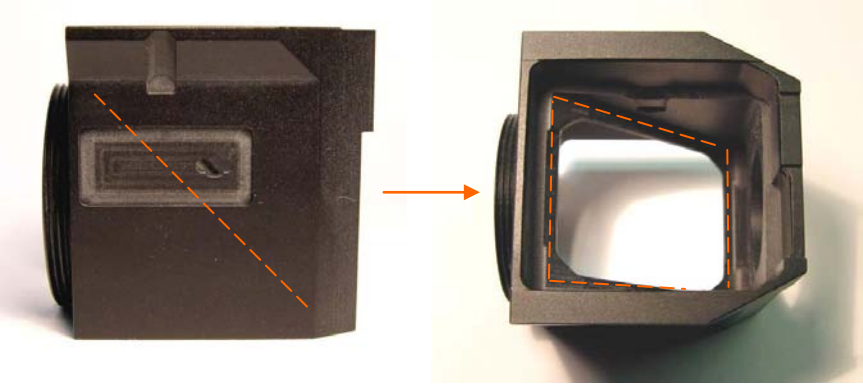
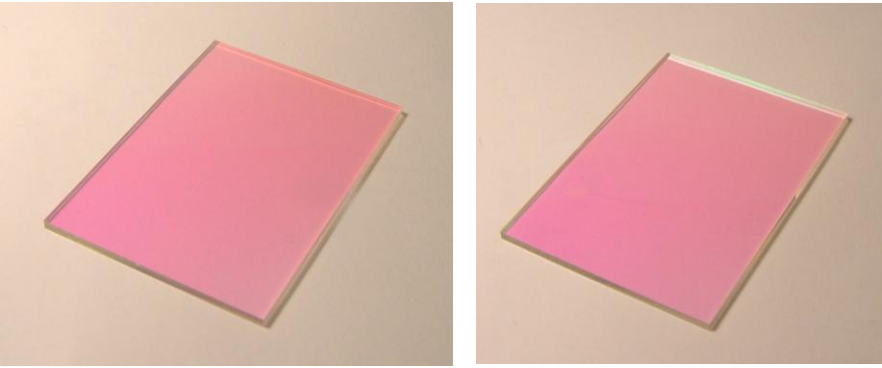
The filters are *oriented* in the assembly as follows:



- The Exciter is mounted with its arrow pointing inward.
- The Dichroic reflective side is mounted facing the Exciter
- The Emitter is mounted with its arrow pointing outward.

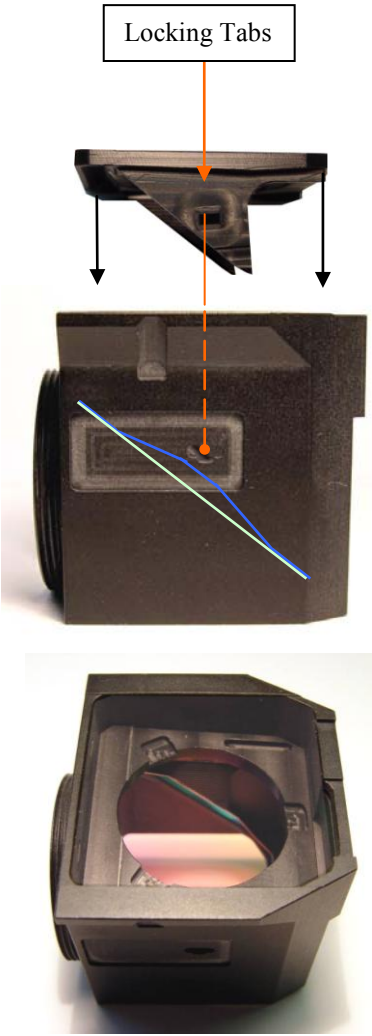
Light passes through the cube in the direction of the arrows.

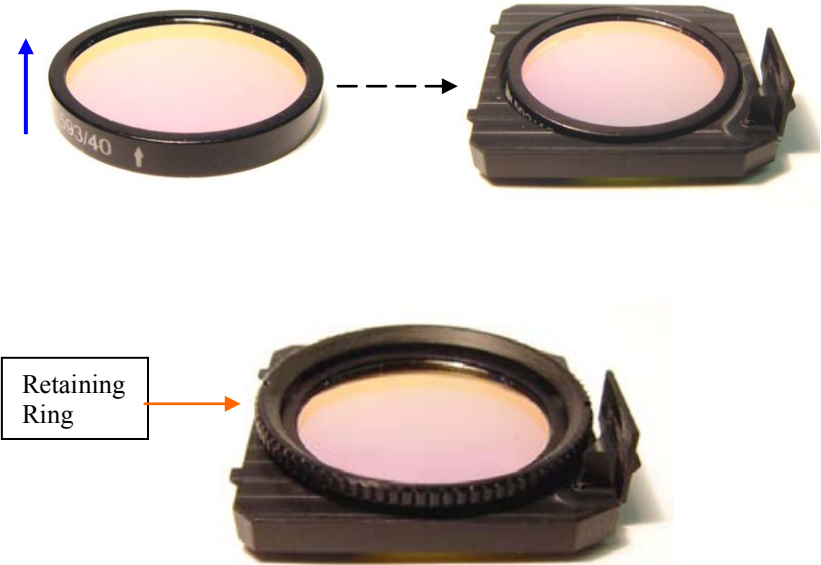
Note: The Dichroic reflective coating must face the Exciter as shown in the cross section diagram.

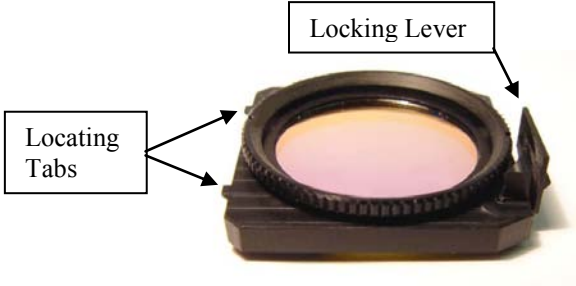
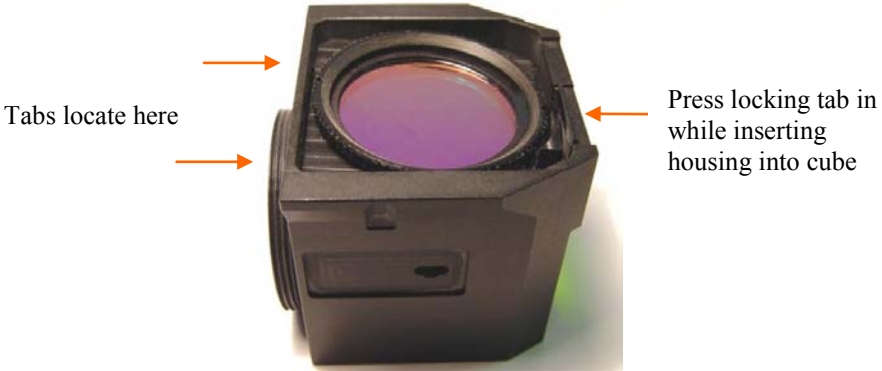




Step	Action
1.1.2	<p>Orient the cube housing with the Exciter side to the left as shown below. The Dichroic filter is mounted diagonally in the area shown by the dashed line.</p> 
1.1.3	<p>Reflective “Coated Side”: The filter edge is concealed by the reflective coating and appears colored all the way to the edge.</p> <p>Anti-Reflective “Uncoated Side”: The filter edge appears uncolored.</p>  <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div data-bbox="418 1430 867 1518" style="text-align: center;"> <p>Reflective Side</p> </div> <div data-bbox="889 1430 1295 1518" style="text-align: center;"> <p>Anti-Reflective Side</p> </div> </div>



Step	Action
1.1.4	<p data-bbox="418 348 1386 407">Place the Dichroic inside the housing on the diagonal mounting surface with the Reflective side DOWN.</p> 
1.1.5	<p data-bbox="418 989 1149 1014">Place the Spring Clip over the Dichroic with the raised bend upward.</p> 


Step	Action
1.1.6	<p>Install the Dichroic Retainer over the Spring Clip.</p> <p>Insert the Retainer into the cube until its slanted edge meets the raised edge of the Spring Clip. Align the Retainer with the Spring Clip and gently press downward until the Retainer locking tabs engage the slots inside the cube.</p> <p>The retainer will click into place when both tabs are secure.</p> <p>In the photo below the Retaining Clip is shown locked in place. Note that the Spring Clip is compressed over the Dichroic filter.</p> <div data-bbox="430 646 799 1675" style="text-align: center;">  </div>

Step	Action
1.1.7	<p data-bbox="418 348 1333 422">Insert the Emitter into the Emitter housing with its arrow pointing up as shown below. Carefully thread the Emitter retaining ring over the Emitter filter and hand-tighten.</p>  <p data-bbox="440 806 586 884">Retaining Ring</p>

Step	Action
1.1.8	<p data-bbox="418 348 1393 407">Position the housing locating tabs into their slots and lower the housing into the cube. Hold the Locking Lever toward the retaining ring and press down slightly to lock into place.</p> <div data-bbox="451 462 1023 745">  </div> <div data-bbox="422 808 1299 1176">  </div>

Step	Action
1.1.9	<p data-bbox="418 348 1399 436">From the supplied parts, locate the Exciter Retaining Ring. Note that the Ring has two parts: an inner ring and an outer threaded collar. Insert the ring locating tabs into the slots of the threaded collar.</p> <p data-bbox="418 457 954 487">Note: Insert the inner ring with the ribbed side up.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div data-bbox="548 499 669 529">Inner Ring</div> <div data-bbox="971 499 1140 529">Threaded Collar</div> </div> <p data-bbox="418 592 1399 621">The Exciter Retaining Ring is shown below with the inner ring installed within the threaded</p> <div data-bbox="428 638 1273 911">  </div> <p data-bbox="418 932 1123 961">collar. The arrows indicate the ring locating slots within the collar.</p> <div data-bbox="451 1125 828 1478">  </div>

Step	Action
1.1.10	<p data-bbox="418 348 1252 380">Orient the Exciter filter with the arrow pointing into the cube as shown below.</p> 
1.1.11	<p data-bbox="418 1003 1377 1066">Position the cube with the Exciter mounting area facing upward. Place the filter inside the Exciter mounting area with the arrow pointing in.</p> 

Step	Action
1.1.12	<p>Thread the Retaining Ring over the Exciter filter. Carefully rotate the Retaining Ring to avoid cross threading. If the ring will not turn, it is not threaded properly. Slowly turn the ring out and try again. Do not force thread the ring as it will turn freely if oriented correctly. Once snug, tighten slightly further to secure.</p> 
1.1.13	<p>Completed Nikon NTE Cube Assembly.</p> 