



Astrel Instruments

AST8300X AST183X
MOUNTING FILTERS STEP BY STEP
USER GUIDE
rev A

Introduction

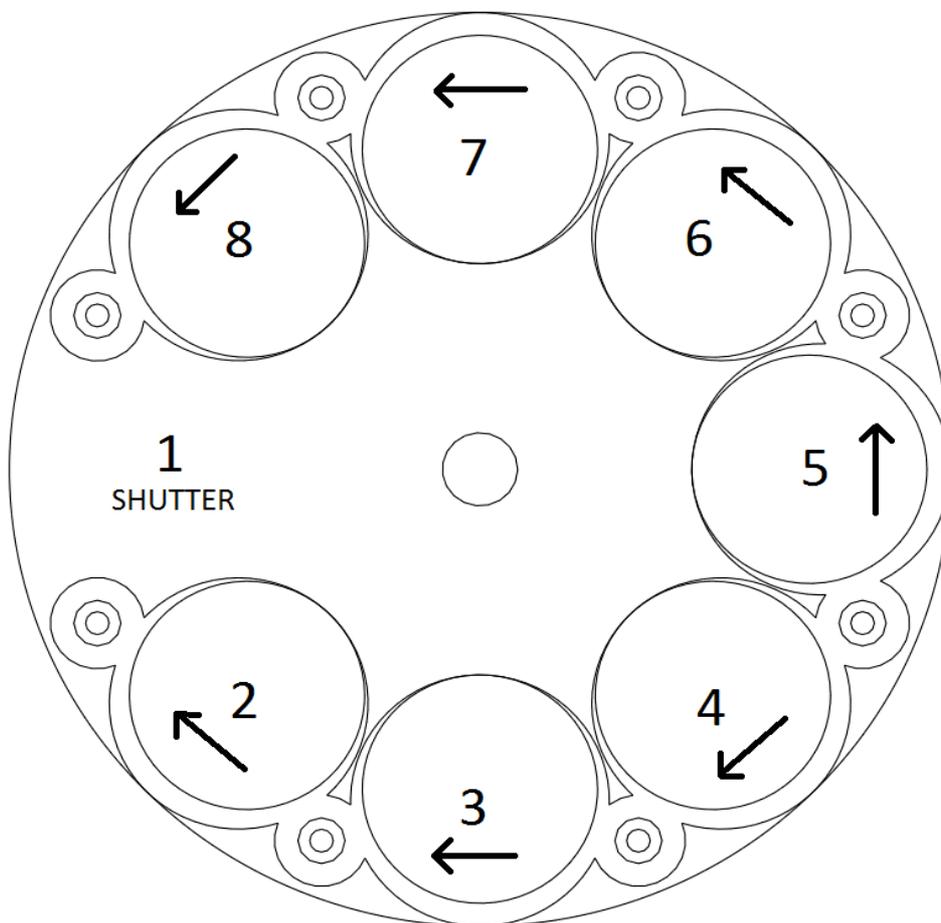
This guide describes the complete procedure to be followed by the user to mount filters on the integrated filter-wheel.

The guide refers to SW release 1.13.

Filter wheel description

The AST8300X and AST183X are equipped with 8 positions internal filter wheel for up to 7 1,25" unmounted filters with thickness between 1 and 3mm. One position is the shutter.

On the wheels, filters are referenced as 1 (shutter) - 2 - 3 ... looking at the camera from the optical window side and counting CCW.



For the AST8300X, which doesn't have an electronic shutter, the wheel moves CW or CCW depending on which filter is selected in order to minimize filter crossing to reach the selected one (see the arrows).

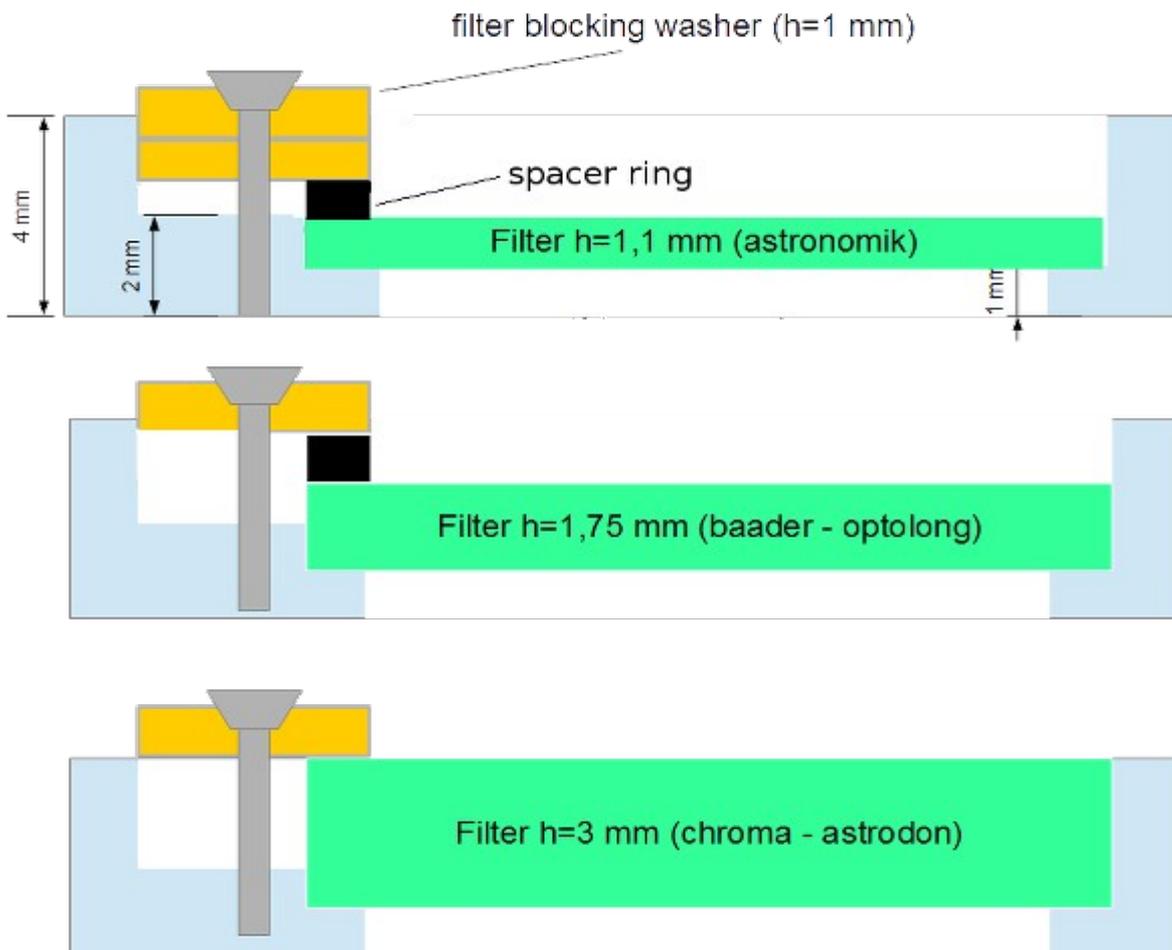
Filters mounting step by step

WARNING: Do all the operation in a clean and dry ambient.

1. Before opening the air valve to remove the vacuum, always insert the vacuum pump into the camera air valve and make vacuum on the connecting tube: using the vacuum pump to fill air into the camera helps to avoid the air water vapor to condensate into liquid water inside the camera
2. open the air valve
3. remove the vacuum by lightly pressing the button below the nose of the vacuum pump
4. remove the four screws that fix the top of the camera on its body
5. open the camera box
6. remove the o-ring from its site; put the oring on a clean place and camera body with its opening toward the table in order to avoid dust entering into it
7. take the camera top and remove the screw that hold fix the wheel on it.
8. remove the wheel

Each filter is blocked by two plastic caps fixed by a screw and if needed also a plastic ring.

Depending on the filter's thickness, you have to use different ways to fix the filters on the wheel, like in the picture below:



9. insert all the filters
10. insert the spacer rings where needed (only for filters of 1.1 to 2mm thickness)
11. insert the correct number of filter blocking washers (1 or 2 for each screw depending on the filter's thickness) and fasten the related screws

WARNING: never leave the screws unfastened when moving the filterwheel: the washers may hit the border of the optical window hole and lock, possibly breaking the filterwheel motor or damaging the window. Pay also attention that the screw's tapped side doesn't exit from the other side of the wheel, or it may lock too: there's no need to over-tight the screw, just put enough pressure so that the filters are no more free to move

12. re-mount the filterwheel tightening strongly the central screw. Verify that the movement of the wheel is smooth and check that while rotating the washers don't hit the camera top
13. put the o-ring on its site on the camera body
14. put the top on the camera body
15. slightly fasten the four screws that fix the top on the body
16. make the vacuum inside the camera using the vacuum pump and close the valve
17. complete fastening the screws

When putting/removing filters, weight distribution of the wheel changes and it could be necessary to adjust the filterwheel calibration using the provided app into the Admin tab of the camera Desktop (refer to the Admin Tools User Guide).

The filter name on the buttons of Filterwheel can be changed using the Configure app into the Admin tab of the camera Desktop (refer to the Admin Tools User Guide).