

Astrel Instruments

AST-8300-A
MOUNTING FILTERS STEP BY STEP
USER GUIDE
rev C

Introduction

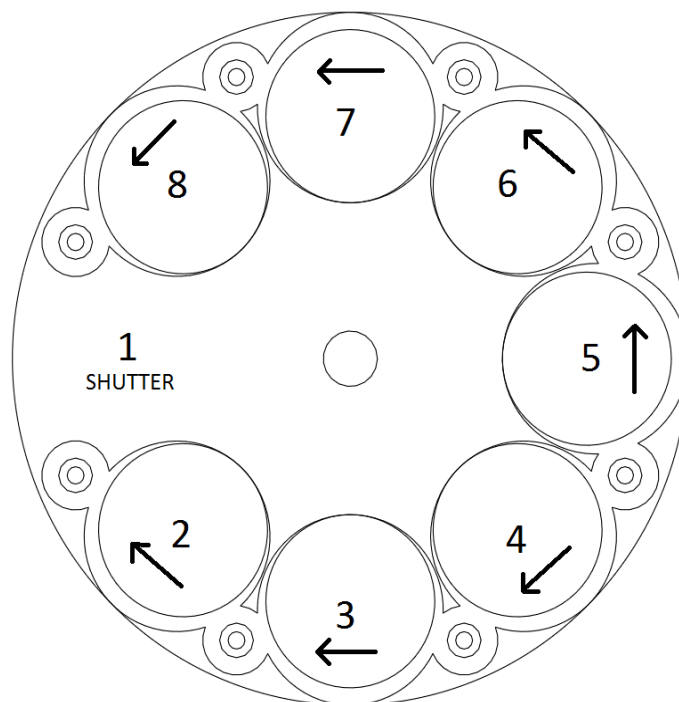
This guide describes the complete procedure to be followed by the user to mount filters on the integrated filter-wheel.

The guide refers to SW release 1.9.

Filters mounting step by step

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

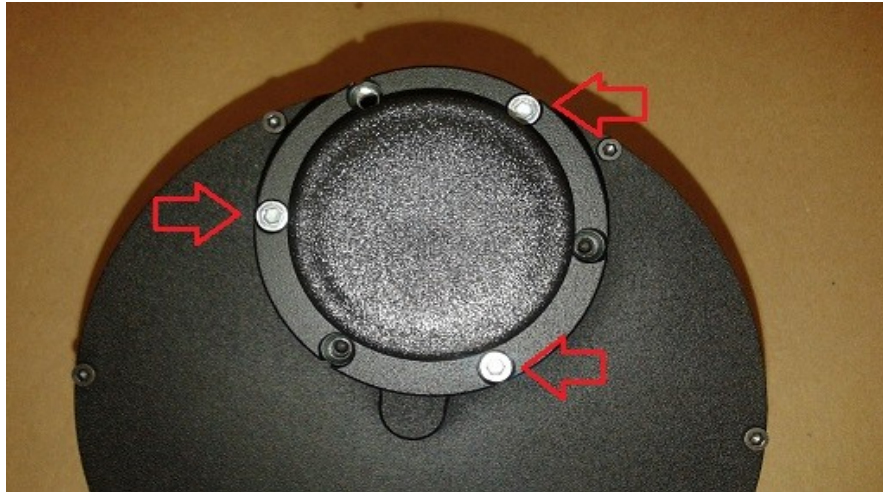
While taking photos the wheel moves CW when are selected filters 2-3-4 and CCW for filters 5-6-7-8 while moves to filters 1 (shutter) both CW and CCW at the end of exposition.



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

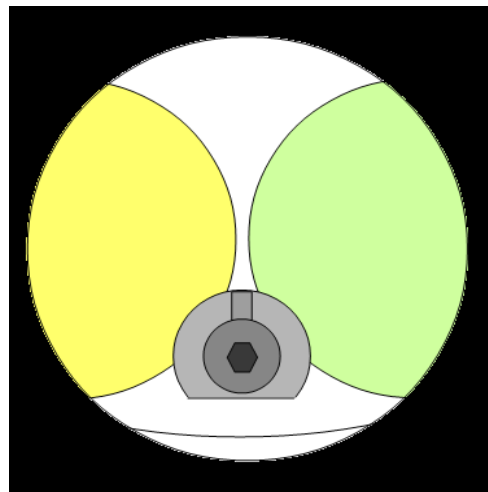
1. Set-up the camera control: the best is to use a PC (via ETH cable or WIFI through the WIFI dongle on USB FS port)
2. power on the camera and wait for boot completion

3. before opening the air valve to remove the vacuum insert the vacuum pump into the camera air valve and make vacuum on the 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)
4. open the air valve
5. remove the vacuum pressing the button below the nose of the vacuum pump
6. remove the three screws that fix the metal ring around the optical window

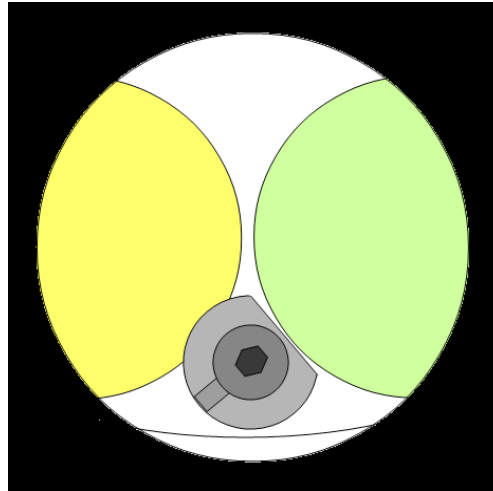


7. remove this metal ring, the optical window and the o-ring. Depending on the camera release date, there could be one o-ring between the metal ring and the optical window: if present remove it, then carefully remove the optical window, and finally remove the o-ring under it, so that you can access the filterwheel.

Each filter is blocked by two plastic supports fixed by a screw; the filter can be placed into its hole only after the two blocking supports are rotated so that they do not obstacle the filter.



Blocking position



Not blocking position

- open to [Filterwheel](#) app from the Camera Desktop menu



- push the button of the selected filter (on the first row there are filter 1 (Shutter) - 2 - 3 - 4; on the second row there are filter 5 - 6 - 7 - 8)



10. using + and - buttons place one of the blocking support so that it is accessible from the optical window hole
11. slightly unscrew its screw so that the blocking support is free to rotate, put it in the unblocking position and fasten the screw again

WARNING: do not leave the screws unfastened: when moving the wheel they may hit the border of the optical window hole and lock, breaking the filterwheel motor

12. repeat steps 10-11 for the blocking support on the other side of the filter
13. push the button of the selected filter on the [Filterwheel](#) app to center the filter hole with the optical window hole
14. insert the filter: depending on the camera release date, the filters holes facing the sensor may have round or squared profiles. The round profiles wheels are compatible with 27mm diameter, 1mm thickness filters, while the squared profiles wheels are compatible with filters up to 27.6mm and up to 2mm thickness. For the latter, after placing the filter, put the correct spacer ring depending on the filter thickness
15. repeat step 10
16. slightly unscrew it so that the filter blocking support is free to rotate, put it in the blocking position and fasten the screw again
17. repeat steps 15-16 for the second blocking support
18. repeat points 9-17 for each filter
- ...
19. put the o-ring, the optical window, the second o-ring if present and the metal ring in their original placements
20. slightly fasten the three screws that fix the ring around the optical window
21. make the vacuum inside the camera using the vacuum pump and close the valve
22. complete fastening the three 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).