

### **Replacing the Desiccant in the ST-6**

This application note describes the replacement procedure for the desiccant used in the ST-6. The desiccant absorbs moisture in the CCD chamber, lowering the dew point below the operating temperature of the cooled CCD, thus preventing the formation of frost. The desiccant is contained in a small rectangular package inside the CCD chamber. In normal operation the useful life of the desiccant is over a year. If the CCD chamber is opened often, the desiccant should be replaced when frosting is noticed. Follow the procedure below to replace the desiccant:

1. Remove the four screws holding the nose piece onto the ST-6 CCD chamber using a 1/16 inch hex driver. Then, in clockwise fashion, loosen the six hex screws holding the CCD chamber to the front plate of the ST-6, loosening each screw in sequence roughly 1/2 turn at a time until all the screws are loose.
2. Once all six screws have been removed, carefully lift the CCD chamber directly upward.
3. At the end of the CCD opposite the vane solenoid, pull the old desiccant package out from between the CCD and the thermal cooler.
4. Carefully insert the new desiccant package into place.
5. Place the O-Ring on the front plate roughly centered around the CCD assembly.
6. Holding the CCD chamber well above the CCD assembly, orient the chamber such that the 4 mounting holes for the nose piece are lined with and orthogonal to the CCD, not off at an angle.
7. Carefully lower the CCD chamber onto the CCD assembly, paying attention to not hang the vane on the edge of the CCD chamber. It is helpful to slightly skew the CCD chamber away from the vane to accomplish this.
8. Once the chamber has been placed down over the CCD assembly, align the chamber to the O-Ring such that the O-Ring seats in its groove.
9. Reinstall the six long screws holding the CCD chamber to the front plate, tightening them 1/2 turn at a time in clockwise sequence until they are all tight and there is no visible gap between the CCD chamber and the front plate. Finally attach the nose piece to the ST-6.