

Tech Note: Cryocell

ANALYTE SERIES

Height Adjustment Procedure

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Purpose: To provide a procedure for adjusting the height of the Cryocell drawer in order to accommodate samples of varying thicknesses.

Difficulty: Moderate
Level: Customer

Screw Guide

Set the screws that are removed in the process of adjusting the height of the drawer on this sheet for a simple method of keeping the screws organized.



4 M3, 8mm Long, Phillips Screws



4 M3, 12mm Long, Phillips Screws



2 M3, 30mm Long, 2.5mm Socket Head Cap Screws



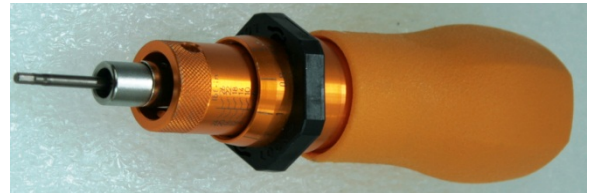
2 M3, 20mm Long, 2.5mm Socket Head Cap Screws

Note: These screws only need to be loosened.

Required Tools



Phillips Size #1 Screwdriver



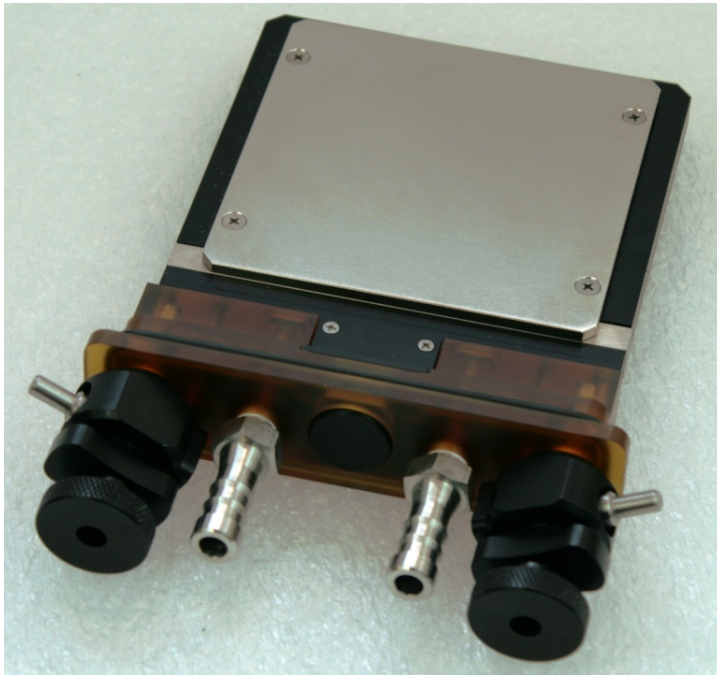
Torque Screwdriver with 2.5mm Hex bit set to 7lb-in



2.5mm Ball-End Hex Driver

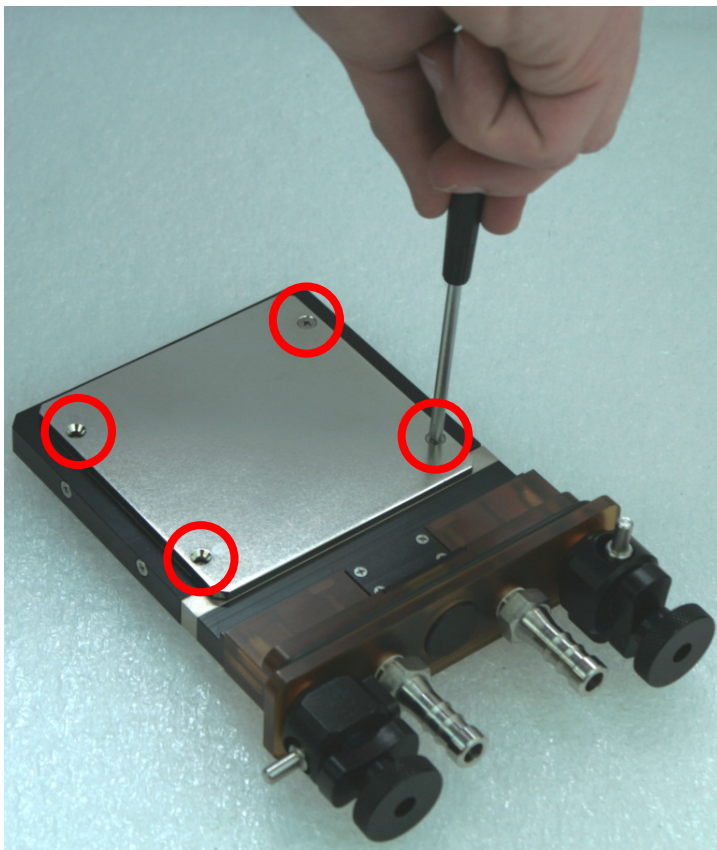
Procedure

Step 1 - Preparation

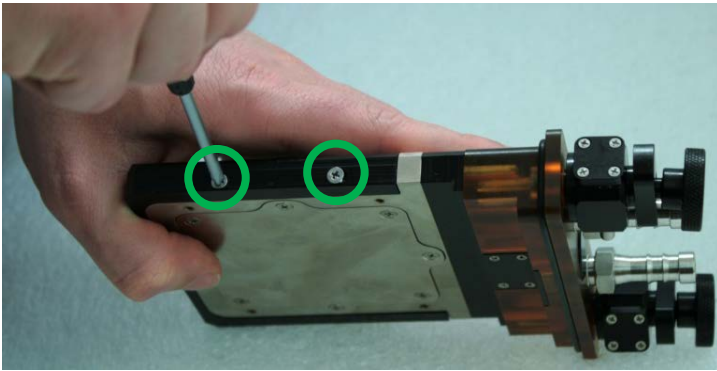


- Remove the Cryocell drawer from the Helex and disconnect the two coolant lines from the front of the drawer. Ethylene
- Place the Cryocell on a work surface that will not be damaged by the Ethylene-Glycol coolant.

Step 2 - Remove Spacer (if installed)



- Remove the four Phillips screws that mount the spacer to the top of the cooling block.
- Remove the spacer and set it aside.



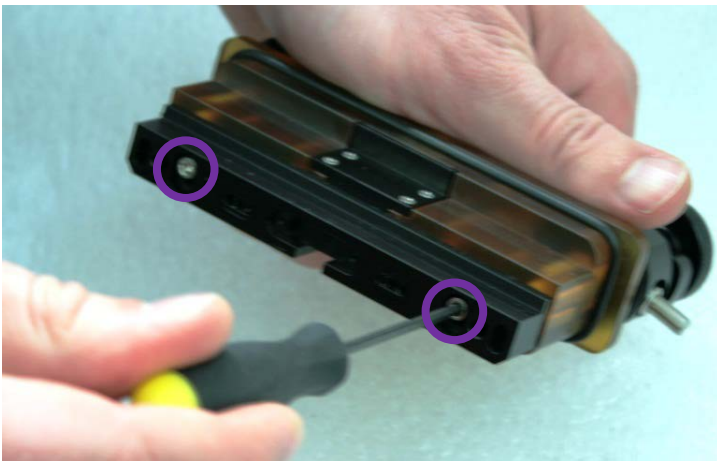
Step 3 – Remove Bottom Insulator

- Remove the four Phillips screws that mount the black insulator to the sides of the cooling block. Two screws are on the left and right sides of the drawer.
- Remove the insulator and set it aside.



Step 4 – Remove Cooling Block

- Using the 2.5mm ball-end hex driver, remove the two 30mm long socket head cap screws that hold the cooling block to the drawer front. Extra care should be taken when removing these screws due to the weight of the cooling block. Once the screws are loosened, place the drawer back on the work surface and then fully remove the screws so as to reduce the risk of the cooling block being dropped and damaged during disassembly.
- Set the cooling block aside.

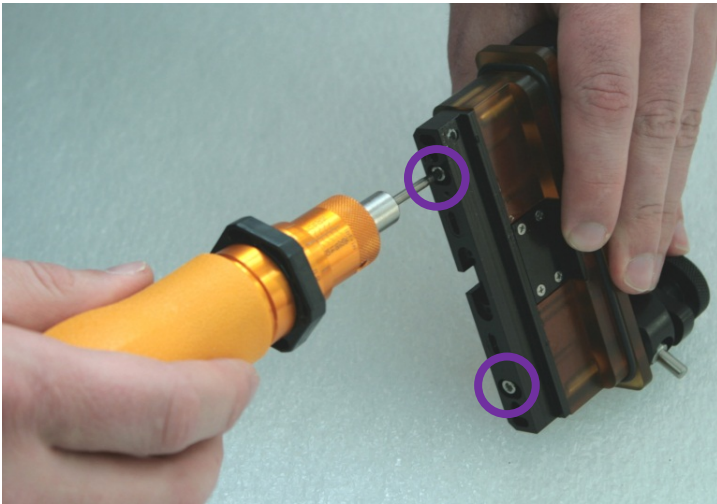


Step 5 – Loosen and Move Manifold

- Using the 2.5mm ball-end hex driver, loosen the two 20mm long socket head cap screws that mount the manifold to the drawer front until the manifold starts to slide. If the manifold does not slide, it may be necessary to remove the screws.
- Determine the necessary height for the drawer using the table below.
- While making sure the top of the manifold stays parallel to the edge drawer front, position the manifold at the desired height and snug up the two screws.

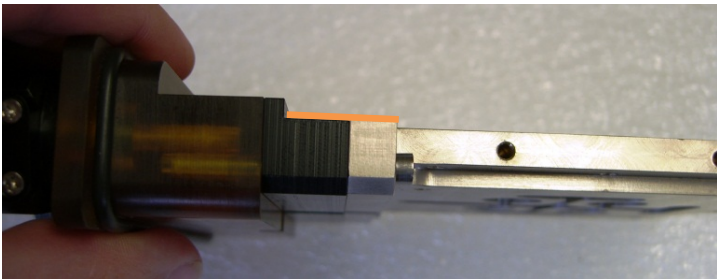
Maximum Sample Thickness Compared to Manifold Position

Location of Manifold	Maximum Sample Thickness With Spacer	Maximum Sample Thickness Without Spacer
Furthest Up Position	1.2mm (.047in)	4.3mm (.170in)
Furthest Down Position	4.3mm (.170in)	7.5mm (.295in)



Step 6 – Secure the Manifold

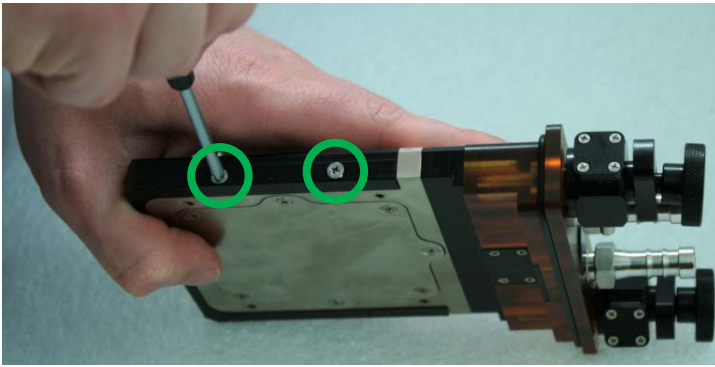
- Using the torque screwdriver with 2.5mm hex bit, tighten the two socket head cap screws on the manifold to 7lb-in.



Step 7 – Reattach the Cooling Block

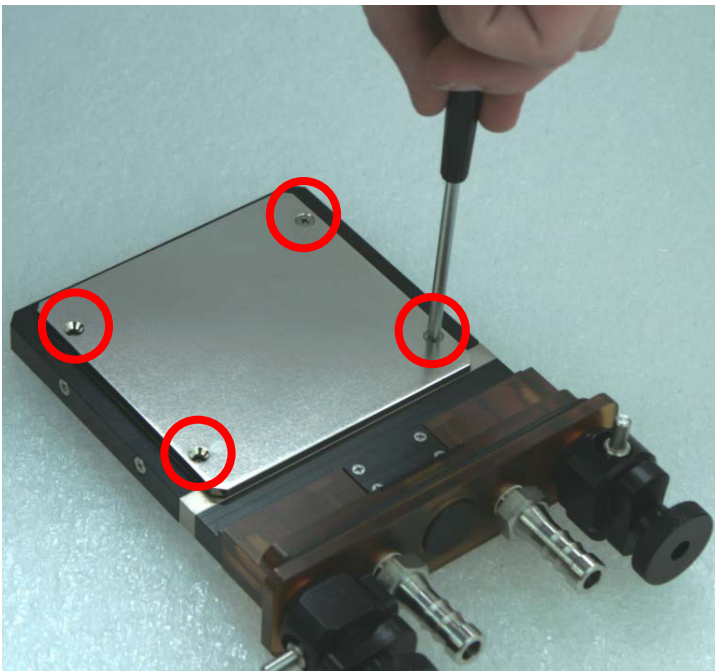
- Place the cooling block against the manifold and install the two 30mm long socket head cap screws through the cooling block into the drawer front. Only thread the screws in a few turns at first to allow for final adjustment of the cooling block position.
- Taking care to align to top of the cooling block to the same height as the top of the manifold (as shown with the orange line), hand tighten the two screws with the 2.5mm ball-end hex driver.
- Using the torque screwdriver, tighten the two socket head cap screws to 7lb-in.





Step 8 – Reattach the Insulator

- Slide the bottom insulator back over cooling block and then towards the drawer front. When installed correctly this will cover up the two screws that attach the cooling block to the drawer front.
- Reinstall the four 12mm long Phillips screws in the sides of the insulator and tighten until snug.



Step 9 – Reinstall the Spacer (if necessary)

- Slide the bottom insulator back over cooling block and then towards the drawer front. When installed correctly this will cover up the two screws that attach the cooling block to the drawer front.
- Reinstall the four 12mm long Phillips screws in the sides of the insulator and tighten until snug.



Step 10 – Reattach Coolant Lines, Test

- Reconnect the coolant lines to the drawer.
- Turn on the chiller and allow the system to run until the coolant is at the desired temperature. Check for leaks throughout the cooling time. It is very important to check for leaks at the minimum temperature as the o-rings contract as the temperature drops.
- If the drawer leaks, check to see if the screws are fully tightened or if any o-rings are damaged. If o-rings are damaged, replace per the instructions in the Cryocell Service Tech Note.
- If there are no leaks, the drawer is ready to use.