

Omnivision Camera Alignment

These instructions assist KinExA® users with aligning the Omnivision camera. The camera should be positioned in the center and provide an optimal view of the flow cell.

Tools needed for this procedure

- A bead pack charged into a properly installed flow cell
- 2.5mm ball driver to align the camera

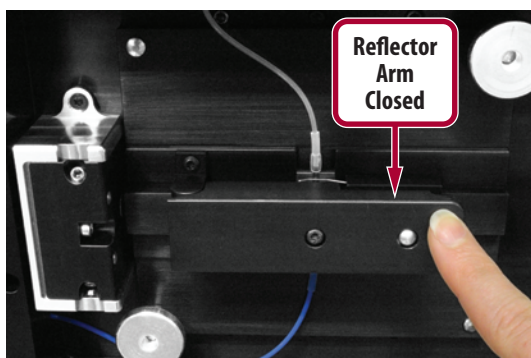


Figure 1. Ensure a flow cell is installed and the reflector arm is fully closed.

Protocol

1. Ensure that a flow cell is properly installed on the instrument **and that the reflector arm is fully closed (Figure 1)**. Turn on the lamp. Vertical alignment at this point is not critical, it just needs to be close enough to see the upcoming bead pack.
2. Charge a bead pack into the flow cell.
3. Open the KinExA Pro Software. Select **Tools** from the menu bar and select **Options**. In the *Instrument Controller* tab, use the drop down menu under *Camera* and select **Omnivision**. Then press **OK**.
4. Go back into the *Tools* menu and select **Align Flow Cell Camera**.
5. A web browser will open up to display the flow cell and grid lines to assist with alignment. If it does not immediately open, you may have to refresh the browser.
Note: See How to Guide 212 *Computer Setup Checklist (HG212)* under the web browser requirements if the browser will not open.
6. Before aligning the camera, make sure to select **Start** from the menu options to start a live feed of the camera image (**Figure 2A**).

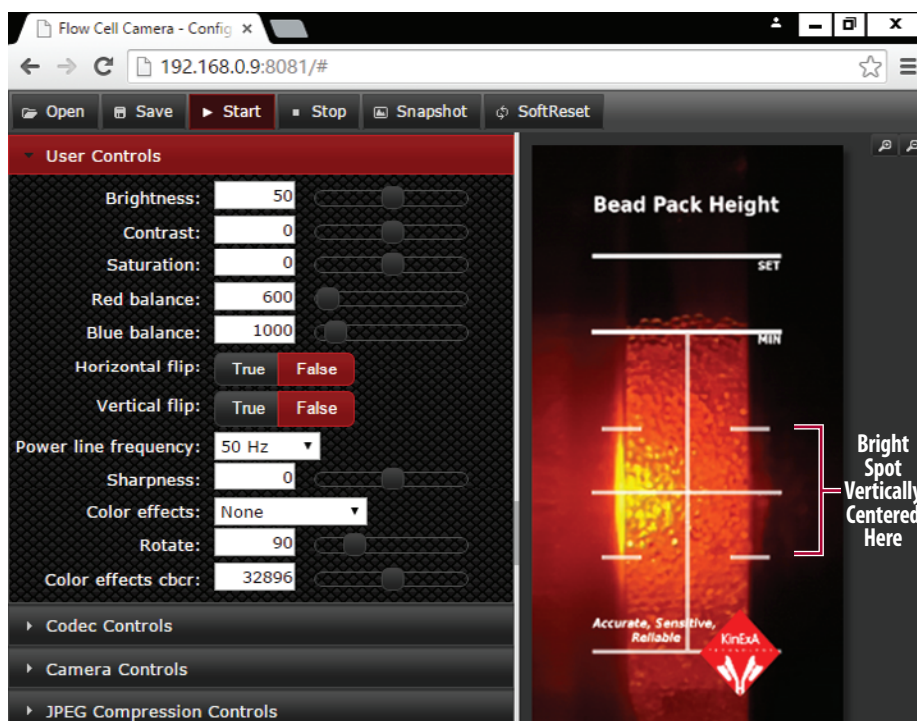


Figure 2A. Access the **START** button from the menu.

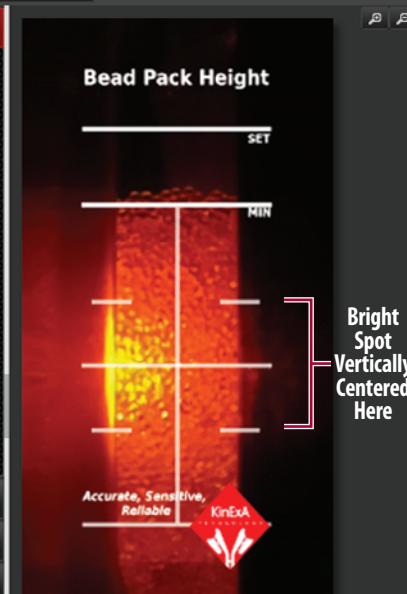


Figure 2B. Camera Image with the flow cell and bright spot correctly aligned with the grid lines.

7. Use **Figure 3** to identify the adjustment screws of the camera.
8. Initially adjust the focus if necessary by turning the focus adjustment to the left and right.
9. Use the directional adjustment screws to **vertically align the bright spot of light** and to **horizontally align the flow cell** in the center of the grid lines (**Figure 2B**). The camera does not move straight up, down, left, and right. **Figure 3** shows how turning the top and bottom screws will move the camera image seen in the software (**Figure 2B**). There is a slight delay in response on the computer monitor so be patient for the screen to update after slight movements. If preferred, the camera view can be zoomed by clicking the magnifying glass icons to the upper right of the camera image.
10. Readjust the focus again if necessary to ensure clear camera images when using KinExA Pro.
11. Once aligned and focused, close out of the browser.
12. Now that the camera is aligned, check that the flow cell is properly aligned vertically before running any experiments. See *How to Guide 203 Flow Cell Replacement and Alignment (HG203)* for instructions on properly aligning a flow cell.

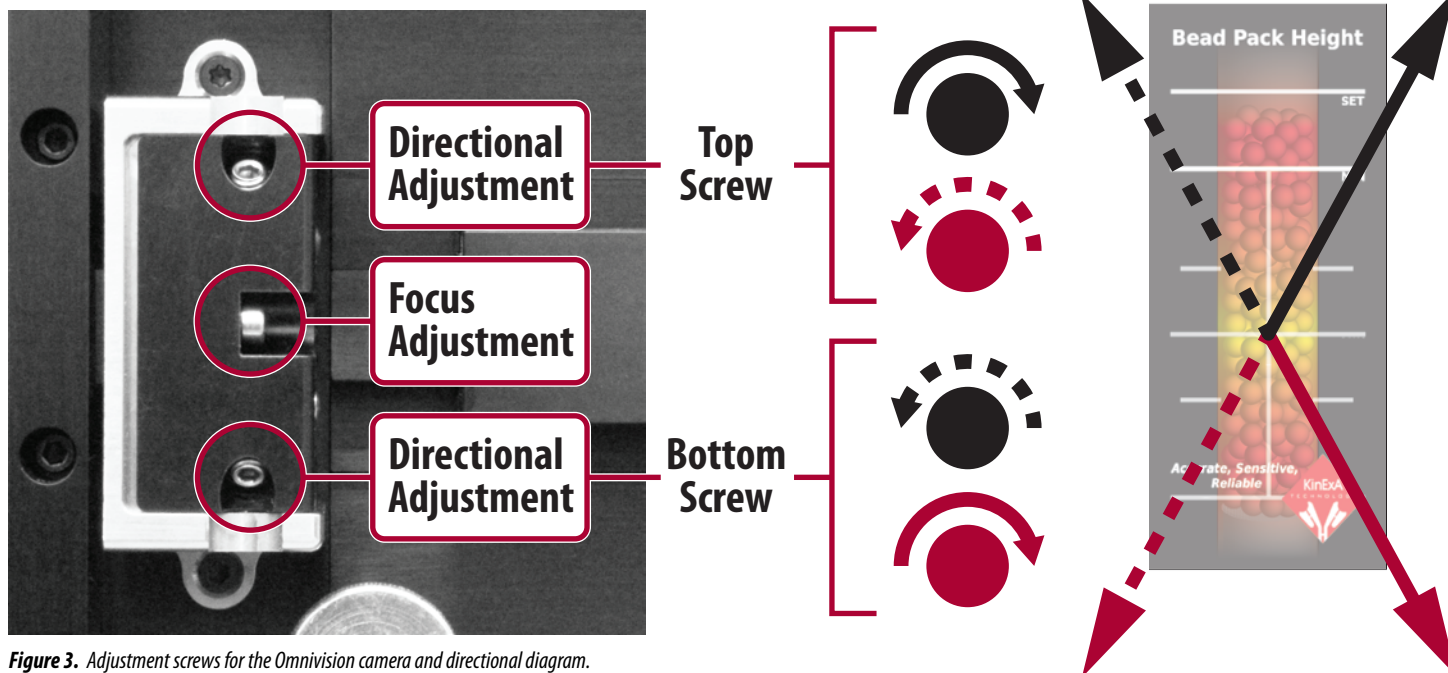


Figure 3. Adjustment screws for the Omnivision camera and directional diagram.