

CHANGING BETWEEN THE OPEN EULARIAN CRADLE (OEC) AND SAMPLE CHANGER

Users who have been duly trained and authorized may exchange the OEC and sample changer sample stages. Only users who have been trained and authorized may do this.

The OEC consists of a single sample stage platform that is mounted to the goniometer by the mounting plate. The sample changer consists of two parts: the sample spinner which is mounted to the goniometer by the mounting plate; and the sample changer which is mounted to a plate in the bottom of the hutch.

(1) To REMOVE THE OEC AND INSTALL THE SAMPLE CHANGER

The OEC and Sample Spinner use the same procedure to be mounted and removed. The only difference is that the OEC weighs quite a bit more than sample spinner.

When changing the sample stages, it is very important that you remember:

- Do not twist or stress the cables. They will break if not handled delicately.
- Do not touch the alignment blocks on the goniometer.
- Do not lift the stages by their motors or cables.

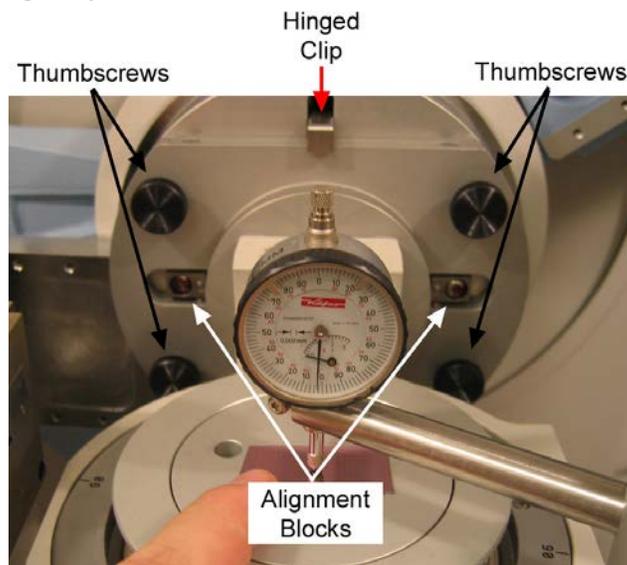


Illustration of how a sample stage is mounted on the goniometer

A. Remove the OEC

1. Remove the four black thumbscrews that are holding the stage in place (shown above).
 - *The hinged clip will support the stage so that it will not fall.*
2. Remove the sample stage from the goniometer
 - The easiest way to do this is to swing out the bottom of the sample stage and then pull it out and down to remove it from the goniometer
 - Alternatively, you can hold the stage, lift up the hinged clip and pull the sample stage off of the goniometer
 - *Be sure not to drop the sample stage*

3. Place the OEC in the front right corner of the hutch,
 - Put the peg on the back of the OEC mounting plate in the hole in the wood board.
 - The OEC will be sitting on its mounting plate and resting upwards
 - Use a bolt to attach the OEC to the wood board
 - *Be careful not to twist or put stress on the cables attached to the stage.*
 - *Be careful of motors and other moving parts; do not hold the stage by the motor, moving part, or cable, and do not set the stage down on any of these parts.*

B. Attach the Sample Spinner to the Goniometer

4. Position the Sample Spinner so that it fits over the alignment blocks and so that the hinged clip holds it in place.
 - *The easiest technique is to tilt the stage so that the **top** of the mounting plate is tilted towards the goniometer, slide the **top** of the stage into place under the clip, and then swing the rest of the stage into place.*
 - *Make sure that you do not twist or stress any cables when you mount the stage.*
 - *Do not touch the alignment blocks; they are easily corroded by the oils on your fingers.*
 - *Make sure the hinged clip engages the stage and is holding it before you let go.*



5. Use the four thumbscrews to tighten the stage into place
 - *Each thumbscrew should have a split washer and a solid washer with it*
 - *Tighten the thumbscrews firmly, but do not overtighten them.*

C. Position the Sample Changer

There are two black locking knobs that are used to hold the sample changer in place.

To lock these black knobs, rotate them about 90° clockwise until the knob alignment snaps down into place.

To unlock the black knob, lift up and rotate the knob about 90° counter-clockwise until the alignment pin is held up and out of the locking position.

6. Unlock the sample changer
 - *When not in use, the sample changer is stored in the front left corner of the hutch. It is locked in place using only the black locking knob closest to the center of the enclosure.*
7. Gently roll the sample changer away from the corner and turn it 90° clockwise, so that the armature is closer to the goniometer and the sample magazine is closer to the front of the enclosure.
 - *Do not grab the articulating arm (the part that moves the sample) on the sample changer. Especially do not use it to move the sample changer.*
8. There is a base plate mounted in the center bottom of the hutch. Roll the sample changer to the right, towards the center of the enclosure, so that it goes over the base plate.

9. There is a line drawn in marker on the base plate. Line up the right-hand side of the sample changer base with the line marked on the base plate.
10. There is a filled in circle along the line drawn in marker on the base plate. Line the notch in the sample changer's bottom with this circle.
11. Lock both of the black locking knobs.
 - *You may have to move the sample changer slightly to ensure that both of the alignment pins lock into place.*

Initialize the Sample Stage in the Data Collector Software

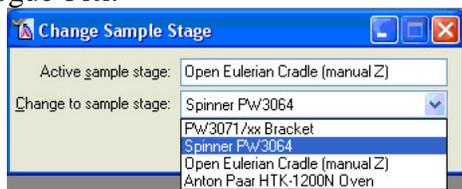
After changing the stage, you should use the sample exchange wizard to tell Data Collector that you are changing it.

12. If you are already connected to the instrument, you will have to go to *Instrument > Disconnect* before you can run the sample exchange wizard.

13. Go to *Tools > Exchange Sample Stage*



- In the dialogue box:



- i. the “Active sample stage” will be the Open Eulerian Cradle (manual Z).
- ii. In the drop-down menu for “Change to sample stage”, pick **Spinner PW3064**
- iii. Press

- In the next few dialogue boxes, press **Next**.
- In the last dialogue box, press **Finish**.
- It may take a couple of minutes for the computer to execute the command.

14. Connect to the instrument using *Instrument > Connect*; when asked to choose a configuration, select the **Sample Changer**.

15. Reset the Sample Stage

- go to the Instrument Settings tab in Data Collector
- double-click on **Sample Changer** in the list
- Click on the **Reset** button

16. Write a sample changer batch, as described in the PANalytical Sample Changer SOP, and run the measurement.

(2) TO REMOVE THE SAMPLE CHANGER AND ATTACH THE OEC

These first two steps are very important to prevent damage to the sample changer

1. Make sure that X'Pert Data Collector is running and is connected to the sample changer.
 - a. Start X'Pert Data Collector
 - b. Connect to the instrument using *Instrument > Connect*
 - c. When asked to choose a configuration, select the sample changer.
2. Reset the Sample Changer
 - a. go to the Instrument Settings tab in Data Collector
 - b. double-click on **Sample Changer** in the list
 - c. Click on the **Reset** button
 - d. Wait for the Sample Changer arm to reposition itself
3. Select the menu item *Instrument > Disconnect* to disconnect the PC from the instrument

Reposition the Sample Changer

4. Unlock the black locking knobs
5. Roll the sample changer to the left until it clears the base plate
 - *Do not grab the articulating arm (the part that moves the sample) on the sample changer. Especially do not use it to move the sample changer.*
6. Rotate the sample changer 90° counter-clockwise, so that the long edge of the sample changer is aligned with the front wall of the enclosure and then sample magazine is towards you.
7. Roll the sample changer so that it is in the front left-hand corner
 - *Use the black locking knob nearest the center of the enclosure to lock the sample changer into place*

Remove the Sample Spinner

17. Remove the four thumbscrews that are holding the stage in place.
 - *The hinged clip will support the stage so that it will not fall.*
18. Holding the stage, lift up the hinged clip and pull the sample stage off of the goniometer
 - *Alternatively, you can swing out the bottom of the sample stage and then pull it out and down to remove it from the goniometer*
 - *Be sure not to drop the sample stage*
19. Place the Sample Spinner in the front center of the hutch, sitting on its mounting plate and resting upwards
 - *Be careful not to twist or put stress on the cables attached to the stage.*
 - *Be careful of motors and other moving parts; do not hold the stage by the motor, moving part, or cable, and do not set the stage down on any of these parts.*

Attach the OEC to the Goniometer

20. Position the OEC so that it fits over the alignment blocks and so that the hinged clip holds it in place.

- *The easiest technique is to tilt the stage so that the top of the mounting plate is tilted towards the goniometer, slide the top of the stage into place under the clip, and then swing the rest of the stage into place.*
- *Make sure that you do not twist or stress any cables when you mount the stage.*
- *Do not touch the alignment blocks; they are easily corroded by the oils on your fingers.*
- *Make sure the hinged clip engages the stage and is holding it before you let go.*

21. Use the four thumbscrews to tighten the stage into place

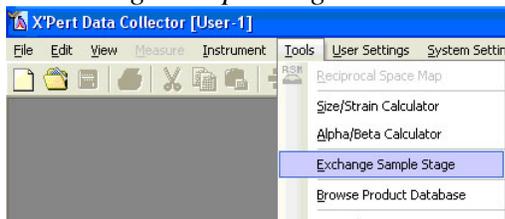
- *Each thumbscrew should have a split washer and a solid washer with it*
- *Tighten the thumbscrews firmly, but do not overtighten them.*

Initialize the Sample Stage in the Data Collector Software

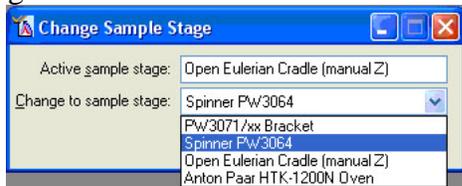
After changing the stage, you should use the sample exchange wizard to tell Data Collector that you are changing it.

22. If you are already connected to the instrument, you will have to go to *Instrument > Disconnect* before you can run the sample exchange wizard.

23. Go to *Tools > Exchange Sample Stage*



- In the dialogue box:



- i. the “Active Sample stage” will be the Spinner PW3064.
- ii. In the drop-down menu for “Change to sample stage”, pick the **Open Eulerian Cradle (manual Z)**.

iii. Press

- In the next three dialogue boxes, press **Next**.
- In the last dialogue box, press **Finish**.
- It may take a couple of minutes for the computer to execute the command.

24. Connect to the instrument using *Instrument > Connect*; when asked to choose a configuration, select the **OEC Motorized Platform**.