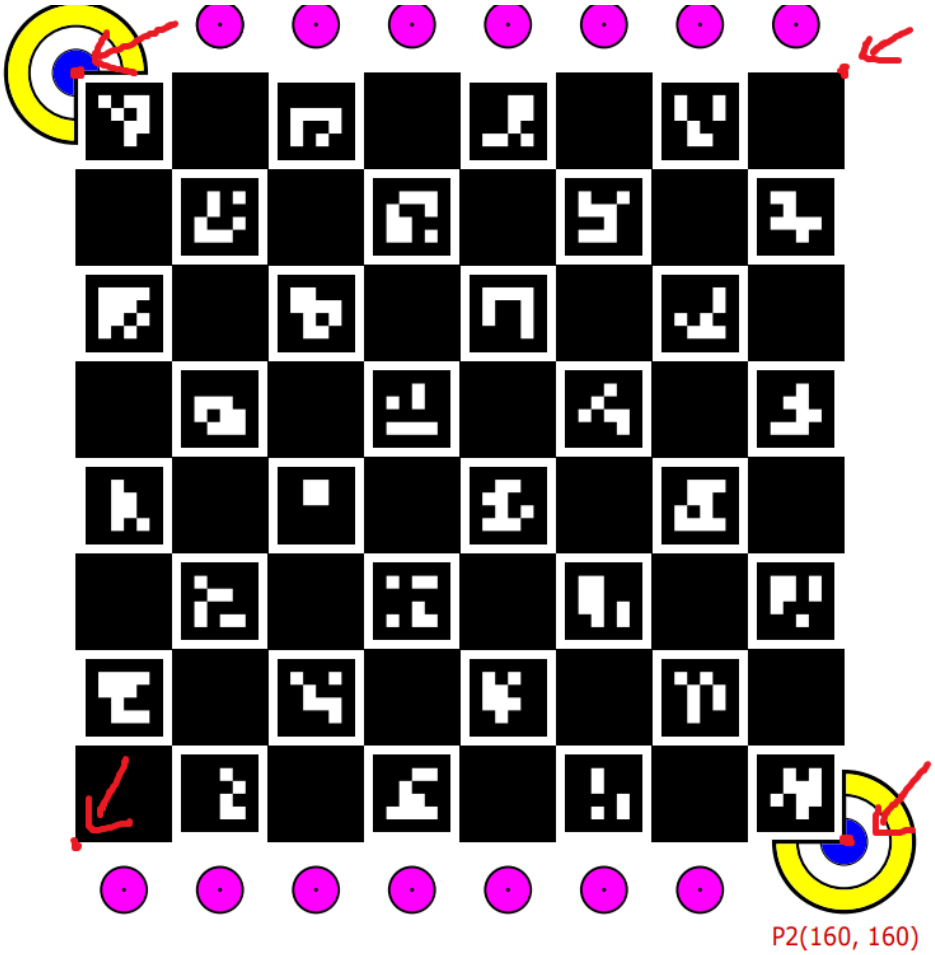
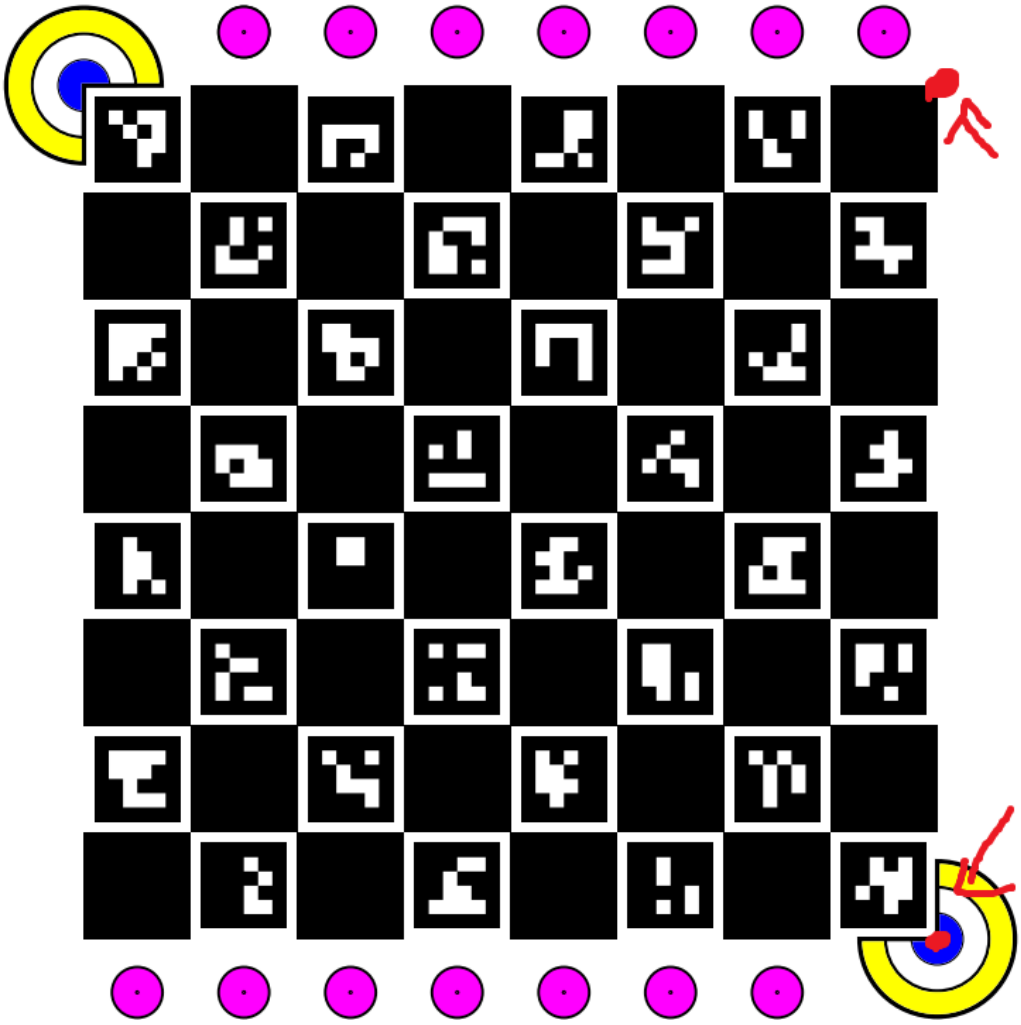
1. Place the calibrator paper under the camera and as parallel to the conveyor belt as possible.
   Press reload image. Move the 4 sides of the rectangle to the 4 sides of the chess board on paper.



2. Next. Press reload image. Drag the crop frame corresponding to the area that needs to be detected on the conveyor belt.

3. Next. Press reload image. Move points P1 and P2 to the following 2 points. Point P1 in the figure is farther from the robot than point P2. Correct the distance corresponding to the actual distance of the 2 marked points. (160mm). And Press Save.



4. Next. Press reload image. Use heavy objects to fix the paper on the conveyor belt. Move the point on the screen to a point on the chess board (Remember that point Px).
5. Next. Move conveyor so that the robot can move to point Px (x robot about -240mm~-300mm) and Press Point 1. Move conveyor again (about +550mm), move robot to Px again (x robot about 240mm~300mm) and Press Point 2.
6. Next. Similar to robot 2 if available.
7. Next. Other parameters of the robot
8. Press Save.

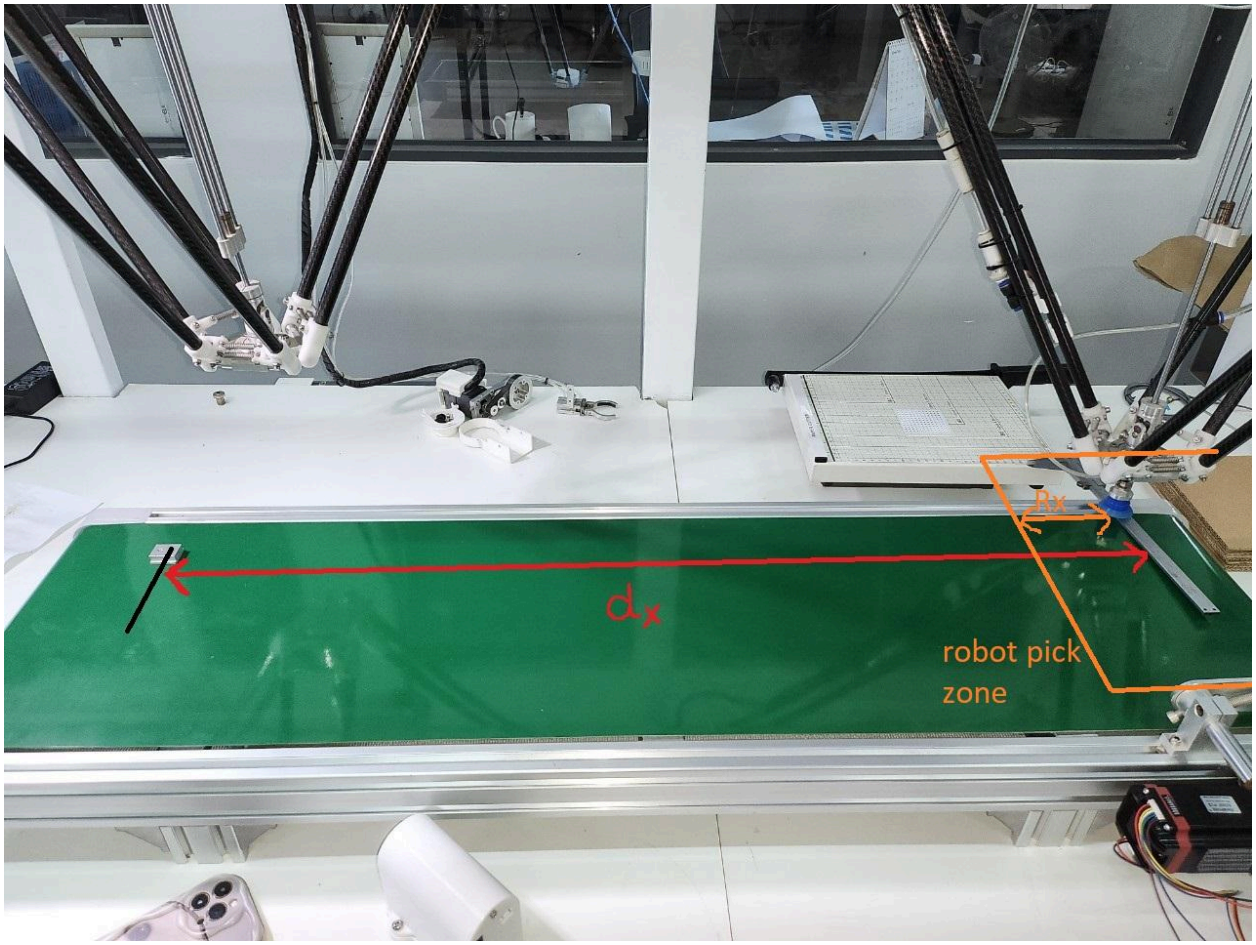
Find the robot's pick range

1. Place an object under the camera. Open the 4th page of calib in the software.

You will see the object on the camera. Drag the marker on the screen to the object location. You will get the actual position of the Xr,Yr object in the lower left corner of the screen.

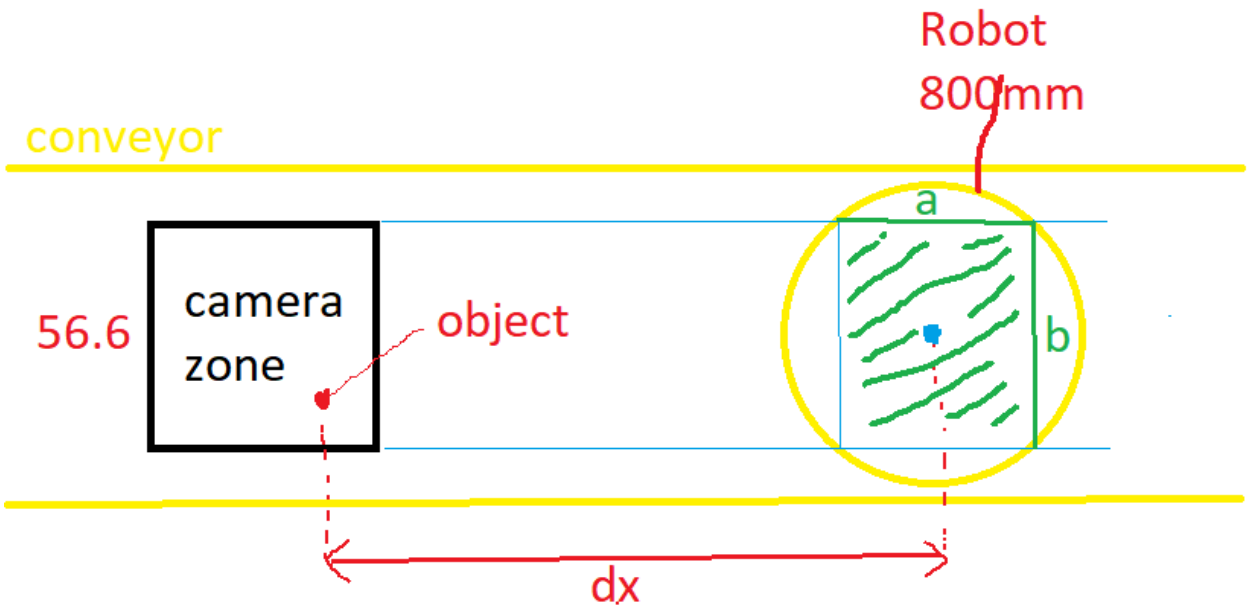
Note that Xr;Yr location. Don't press Save (we're just getting the actual location). Turn off software.

2. Keep the object in place. Move the robot to position X0 Y0. And lower the Z robot close to the conveyor belt.



Use a ruler to measure the distance from the object to the center of the robot's suction. Call that distance dx.

3. Calculate the robot's operating area based on the camera's detection area.



These calculations do not need to be too precise.
When the distance b and circle diameter are 800m. then we can easily calculate a (side of the rectangle in the circle).
Then Rx (in step 2) = a/2.

These are the values we need to calculate x_min,x_max

X_min = Xr + dx - Rx
X_max = Xr + dx + Rx - 100