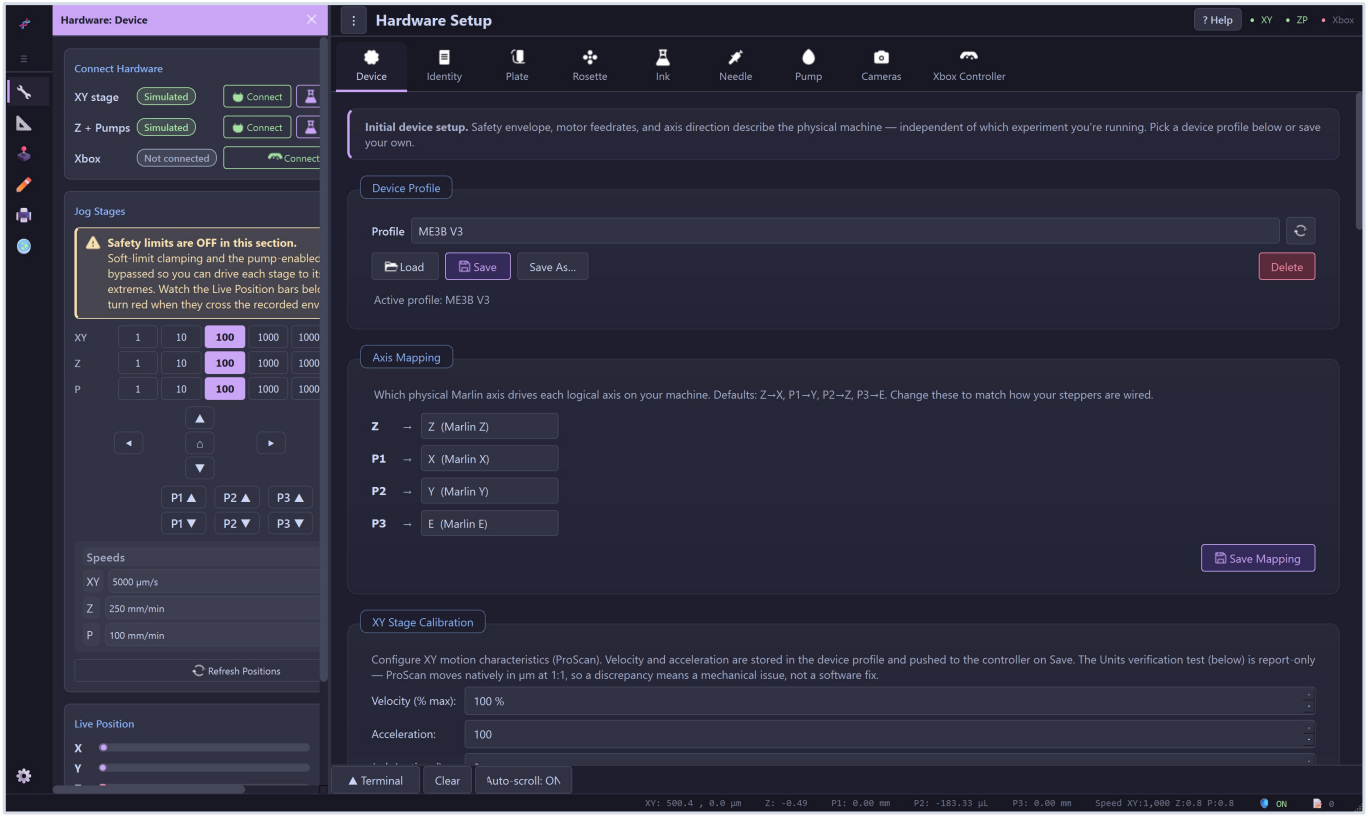
Hardware: Device
Connect Hardware
XY stage
Simulated
Connect
Z + Pumps
Simulated
Connect
Xbox
Not connected
Connect
Jog Stages
Safety limits are OFF in this section.
Soft-limit clamping and the pump-enablec
bypassed so you can drive each stage to it
extremes. Watch the Live Position bars bel
turn red when they cross the recorded env
XY 1 10 100 1000 1000
Z 1 10 100 1000 1000
P 1 10 100 1000 1000
P1 ▲ P2 ▲ P3 ▲
P1 ▼ P2 ▼ P3 ▼
Speeds
XY 5000 µm/s
Z 250 mm/min
P 100 mm/min
Refresh Positions
Live Position
X
Y
Hardware Setup
? Help
XY
ZP
Xbox
Device
Identity
Plate
Rosette
Ink
Needle
Pump
Cameras
Xbox Controller
Initial device setup. Safety envelope, motor feedrates, and axis direction describe the physical machine — independent of which experiment you're running. Pick a device profile below or save your own.
Device Profile
Profile
ME3B V3
Load
Save
Save As...
Delete
Active profile: ME3B V3
Axis Mapping
Which physical Marlin axis drives each logical axis on your machine. Defaults: Z→X, P1→Y, P2→Z, P3→E. Change these to match how your steppers are wired.
Z → Z (Marlin Z)
P1 → X (Marlin X)
P2 → Y (Marlin Y)
P3 → E (Marlin E)
Save Mapping
XY Stage Calibration
Configure XY motion characteristics (ProScan). Velocity and acceleration are stored in the device profile and pushed to the controller on Save. The Units verification test (below) is report-only — ProScan moves natively in µm at 1:1, so a discrepancy means a mechanical issue, not a software fix.
Velocity (% max): 100 %
Acceleration: 100
▲ Terminal
Clear
Auto-scroll: ON

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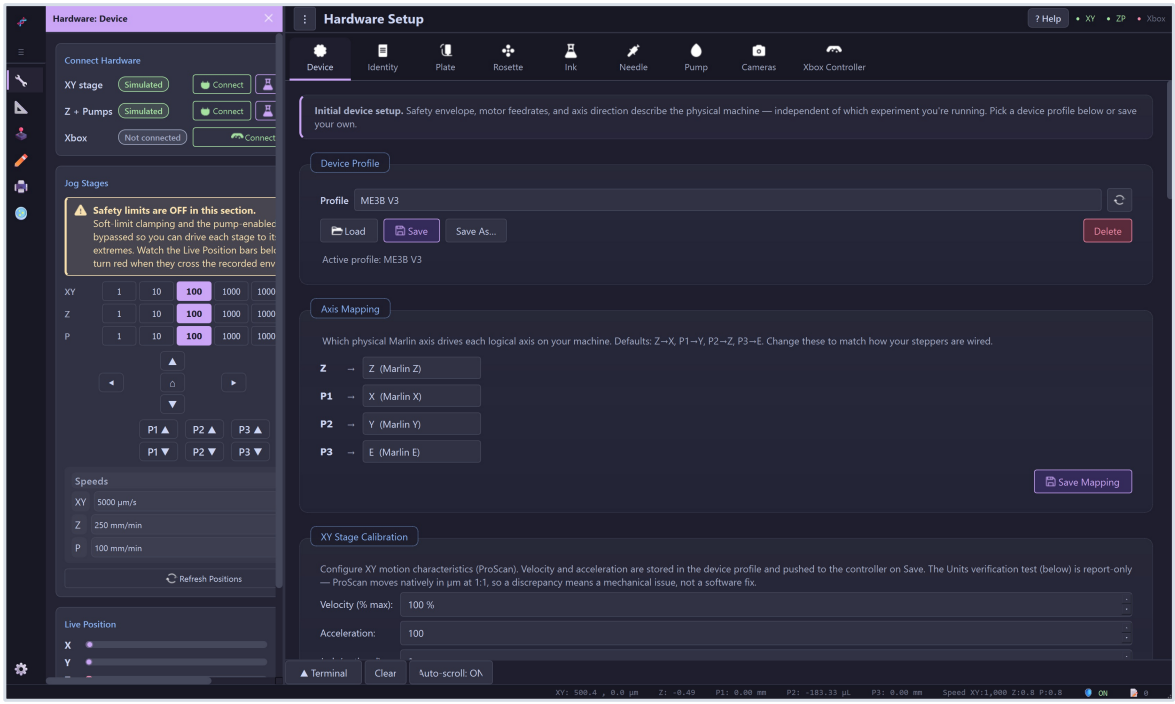
Hardware: Device
Connect Hardware
XY stage
Simulated
Connect
Z + Pumps
Simulated
Connect
Xbox
Not connected
Connect
Jog Stages
Safety limits are OFF in this section.
Soft-limit clamping and the pump-enablec
bypassed so you can drive each stage to it
extremes. Watch the Live Position bars belc
turn red when they cross the recorded env
XY 1 10 100 1000 1000
Z 1 10 100 1000 1000
P 1 10 100 1000 1000
P1 ▲ P2 ▲ P3 ▲
P1 ▼ P2 ▼ P3 ▼
Speeds
XY 5000 µm/s
Z 250 mm/min
P 100 mm/min
Refresh Positions
Live Position
X
Y
Hardware Setup
? Help
XY
ZP
Xbox
Device
Identity
Plate
Rosette
Ink
Needle
Pump
Cameras
Xbox Controller
Initial device setup. Safety envelope, motor feedrates, and axis direction describe the physical machine — independent of which experiment you're running. Pick a device profile below or save your own.
Device Profile
Profile ME3B V3
Load
Save
Save As...
Delete
Active profile: ME3B V3
Axis Mapping
Which physical Marlin axis drives each logical axis on your machine. Defaults: Z→X, P1→Y, P2→Z, P3→E. Change these to match how your steppers are wired.
Z → Z (Marlin Z)
P1 → X (Marlin X)
P2 → Y (Marlin Y)
P3 → E (Marlin E)
Save Mapping
XY Stage Calibration
Configure XY motion characteristics (ProScan). Velocity and acceleration are stored in the device profile and pushed to the controller on Save. The Units verification test (below) is report-only — ProScan moves natively in µm at 1:1, so a discrepancy means a mechanical issue, not a software fix.
Velocity (% max): 100 %
Acceleration: 100
▲ Terminal
Clear
Auto-scroll: ON

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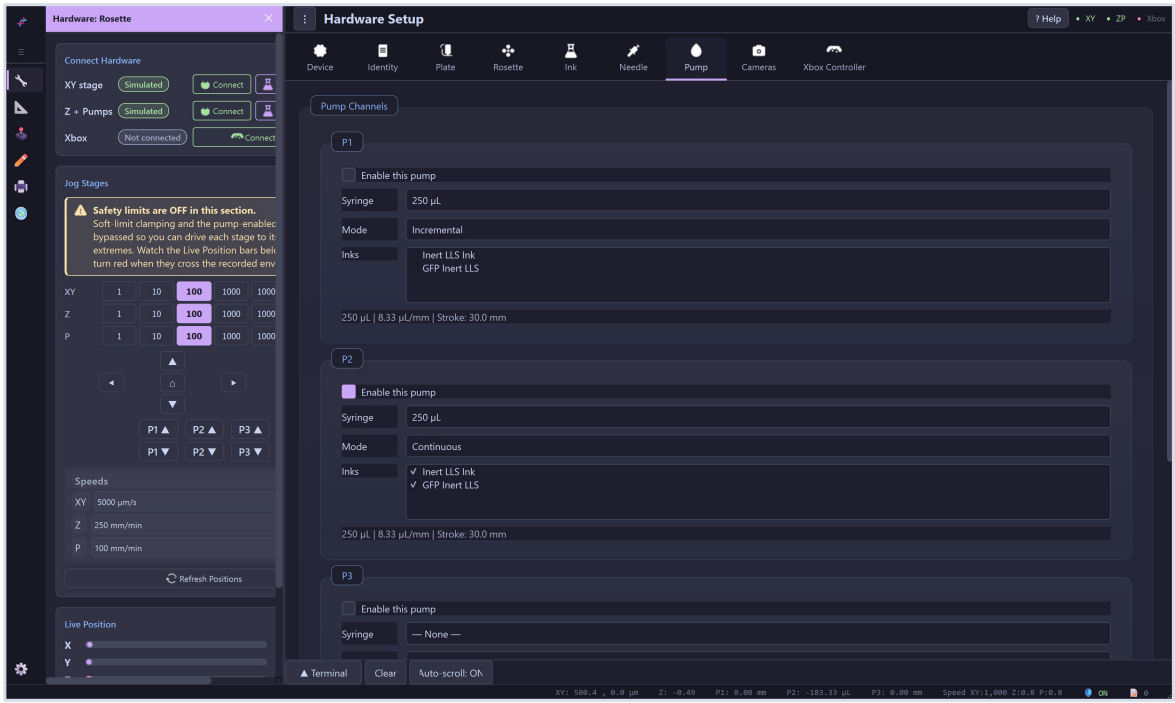
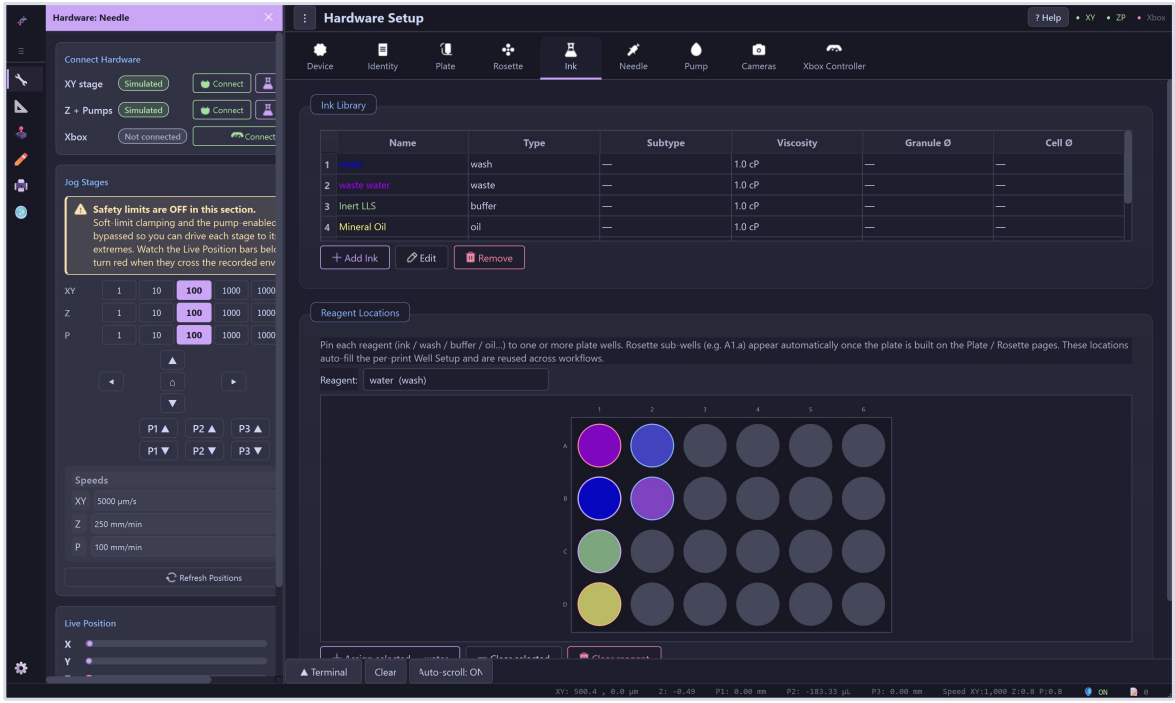
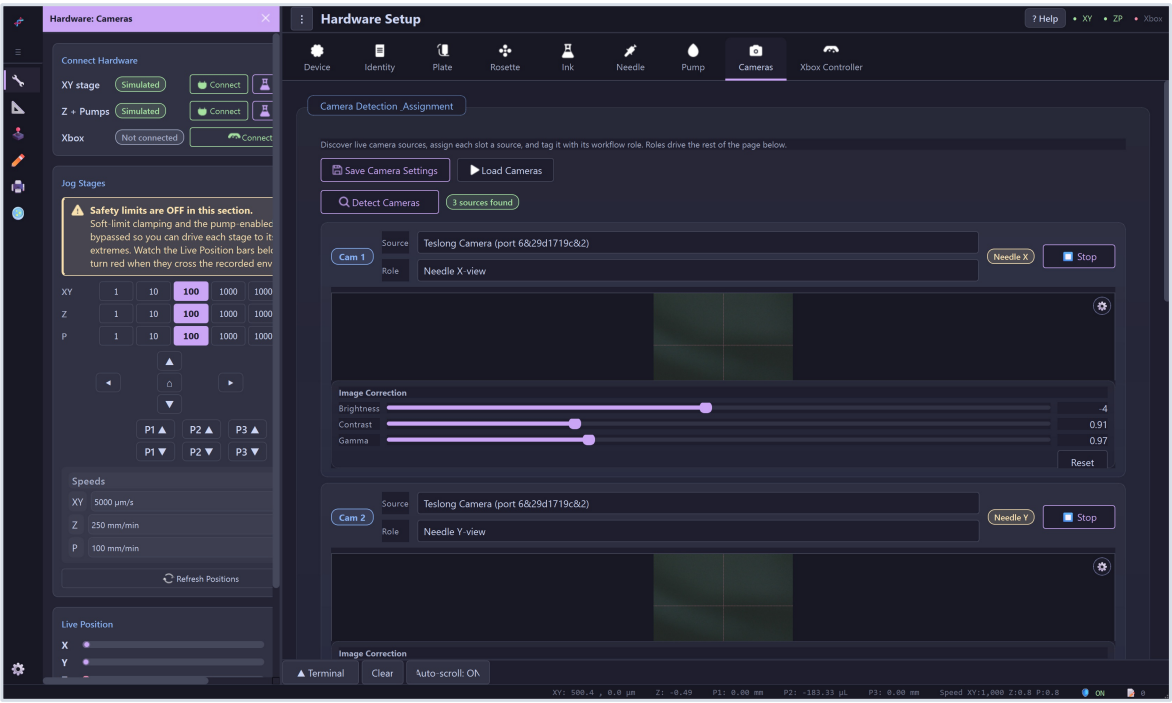

Hardware: Rosette
Connect Hardware
XY stage
Simulated
Connect
Z + Pumps
Simulated
Connect
Xbox
Not connected
Connect
Jog Stages
Safety limits are OFF in this section.
Soft-limit clamping and the pump enablec
bypassed so you can drive each stage to it
extremes. Watch the Live Position bars bel
turn red when they cross the recorded env
XY 1 10 100 1000 1000
Z 1 10 100 1000 1000
P 1 10 100 1000 1000
P1 ▲ P2 ▲ P3 ▲
P1 ▼ P2 ▼ P3 ▼
Speeds
XY 5000 µm/s
Z 250 mm/min
P 100 mm/min
Refresh Positions
Live Position
X
Y
Hardware Setup
? Help
XY
ZP
Xbox
Device
Identity
Plate
Rosette
Ink
Needle
Pump
Cameras
Xbox Controller
Pump Channels
P1
Enable this pump
Syringe
250 µL
Mode
Incremental
Inks
Inert LLS Ink
GFP Inert LLS
250 µL | 8.33 µL/mm | Stroke: 30.0 mm
P2
Enable this pump
Syringe
250 µL
Mode
Continuous
Inks
✓ Inert LLS Ink
✓ GFP Inert LLS
250 µL | 8.33 µL/mm | Stroke: 30.0 mm
P3
Enable this pump
Syringe
— None —
Terminal
Clear
Auto-scroll: ON


Hardware: Needle
Connect Hardware
XY stage
Simulated
Connect
Z + Pumps
Simulated
Connect
Xbox
Not connected
Connect
Jog Stages
Safety limits are OFF in this section.
Soft-limit clamping and the pump enablec
bypassed so you can drive each stage to it
extremes. Watch the Live Position bars bel
turn red when they cross the recorded env
XY 1 10 100 1000 1000
Z 1 10 100 1000 1000
P 1 10 100 1000 1000
P1 ▲ P2 ▲ P3 ▲
P1 ▼ P2 ▼ P3 ▼
Speeds
XY 5000 µm/s
Z 250 mm/min
P 100 mm/min
Refresh Positions
Live Position
X
Y
Hardware Setup
? Help
XY
ZP
Xbox
Device
Identity
Plate
Rosette
Ink
Needle
Pump
Cameras
Xbox Controller
Ink Library
Name
Type
Subtype
Viscosity
Granule Ø
Cell Ø
1 water wash — 1.0 cP — —
2 waste water waste — 1.0 cP — —
3 Inert LLS buffer — 1.0 cP — —
4 Mineral Oil oil — 1.0 cP — —
Add Ink
Edit
Remove
Reagent Locations
Pin each reagent (ink / wash / buffer / oil...) to one or more plate wells. Rosette sub-wells (e.g. A1.a) appear automatically once the plate is built on the Plate / Rosette pages. These locations auto-fill the per-print Well Setup and are reused across workflows.
Reagent: water (wash)
Terminal
Clear
Auto-scroll: ON



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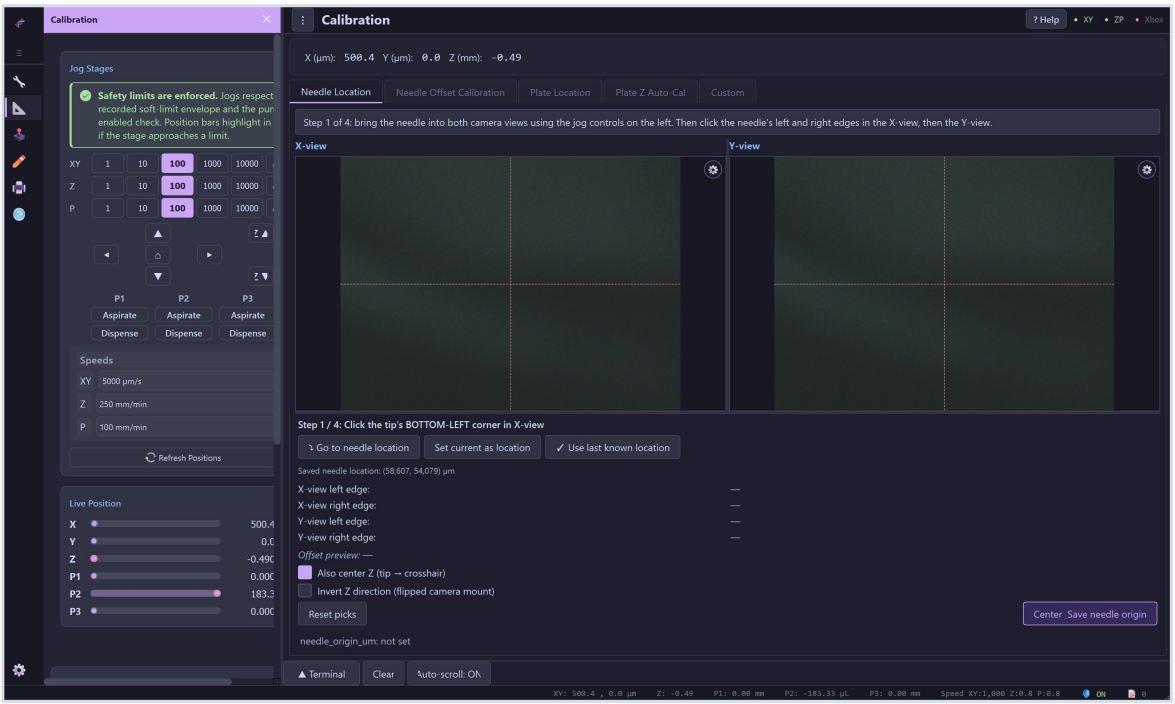

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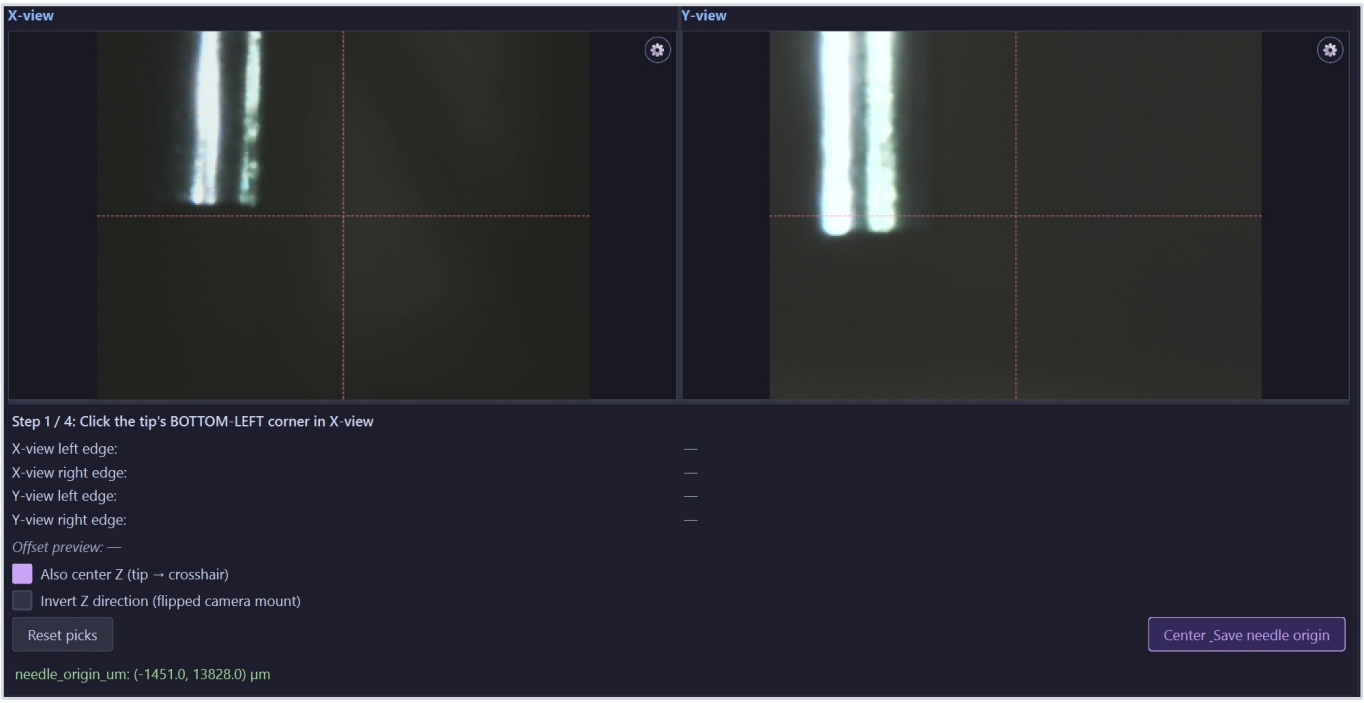
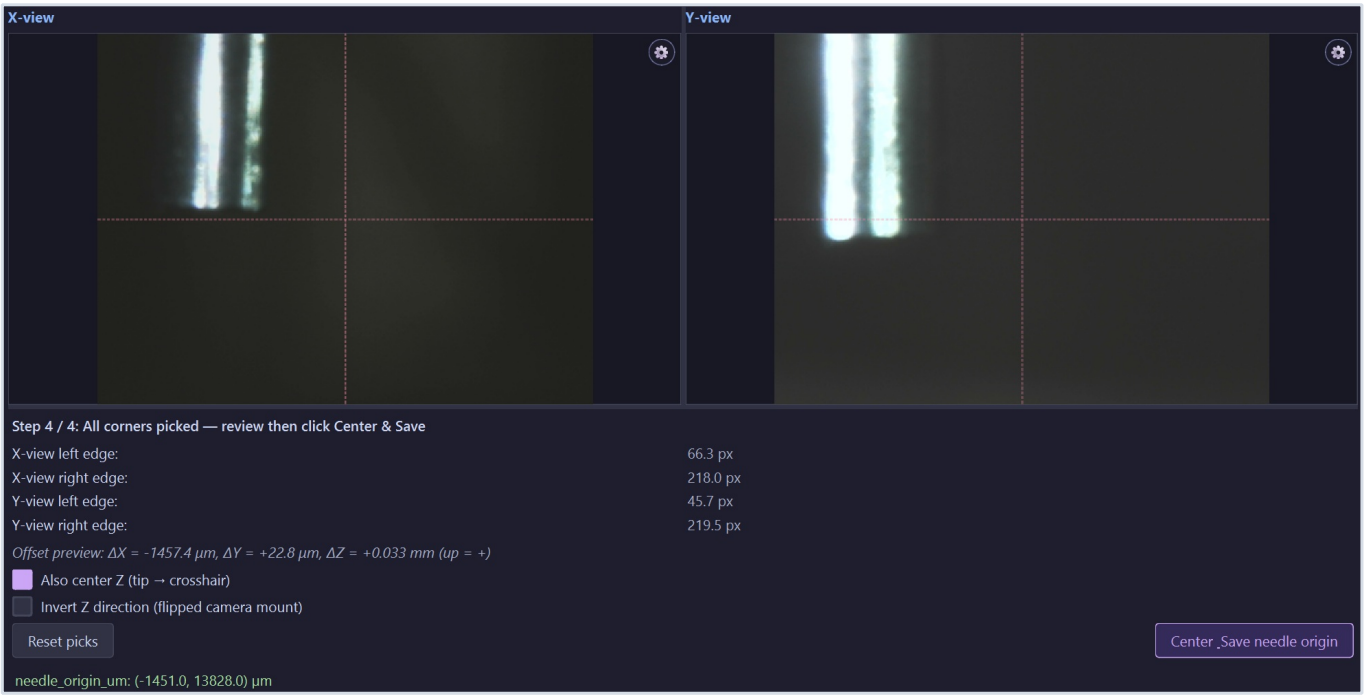
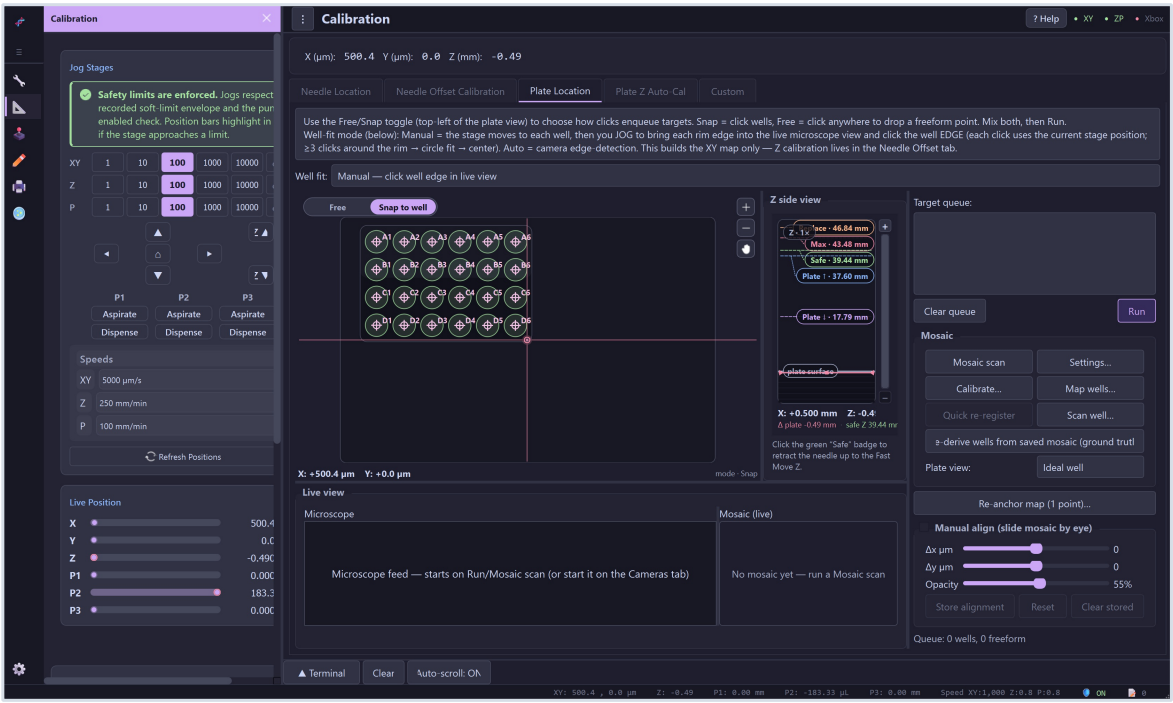
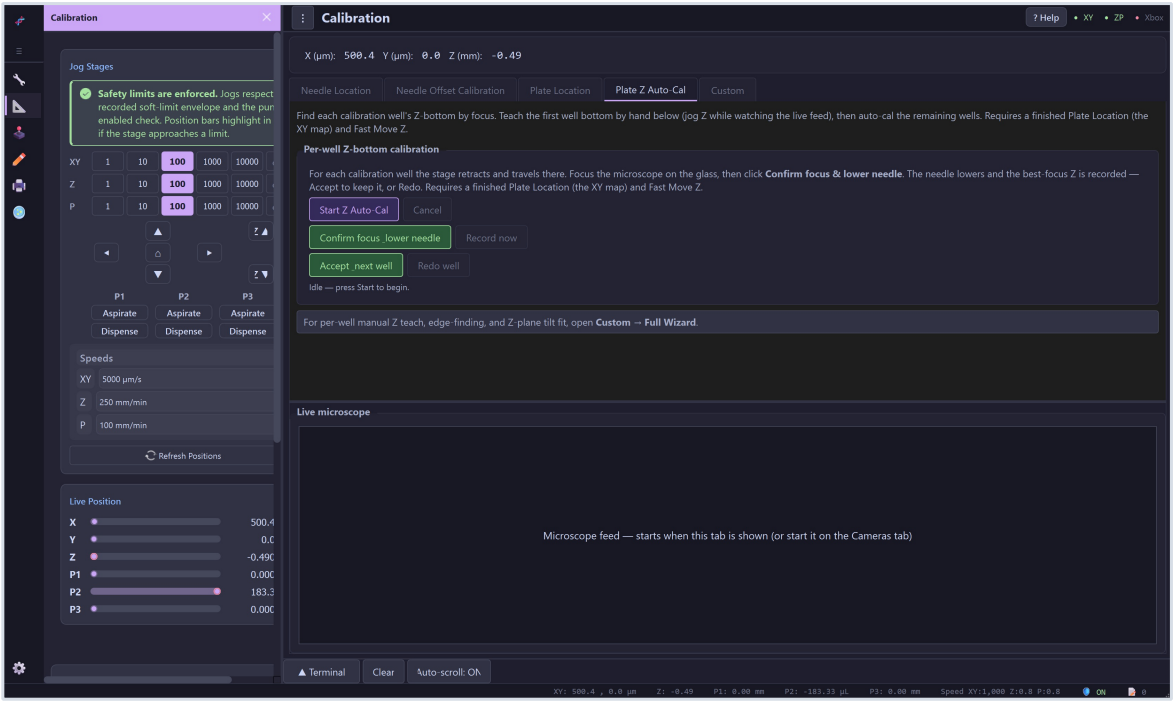

X-view
Y-view
Step 1 / 4: Click the tip's BOTTOM-LEFT corner in X-view
X-view left edge: —
X-view right edge: —
Y-view left edge: —
Y-view right edge: —
Offset preview: —
Also center Z (tip → crosshair)
Invert Z direction (flipped camera mount)
Reset picks
Center _Save needle origin
needle_origin_um: (-1451.0, 13828.0) µm


X-view
Y-view
Step 4 / 4: All corners picked — review then click Center & Save
X-view left edge: 66.3 px
X-view right edge: 218.0 px
Y-view left edge: 45.7 px
Y-view right edge: 219.5 px
Offset preview: ΔX = -1457.4 µm, ΔY = +22.8 µm, ΔZ = +0.033 mm (up = +)
Also center Z (tip → crosshair)
Invert Z direction (flipped camera mount)
Reset picks
Center _Save needle origin
needle_origin_um: (-1451.0, 13828.0) µm





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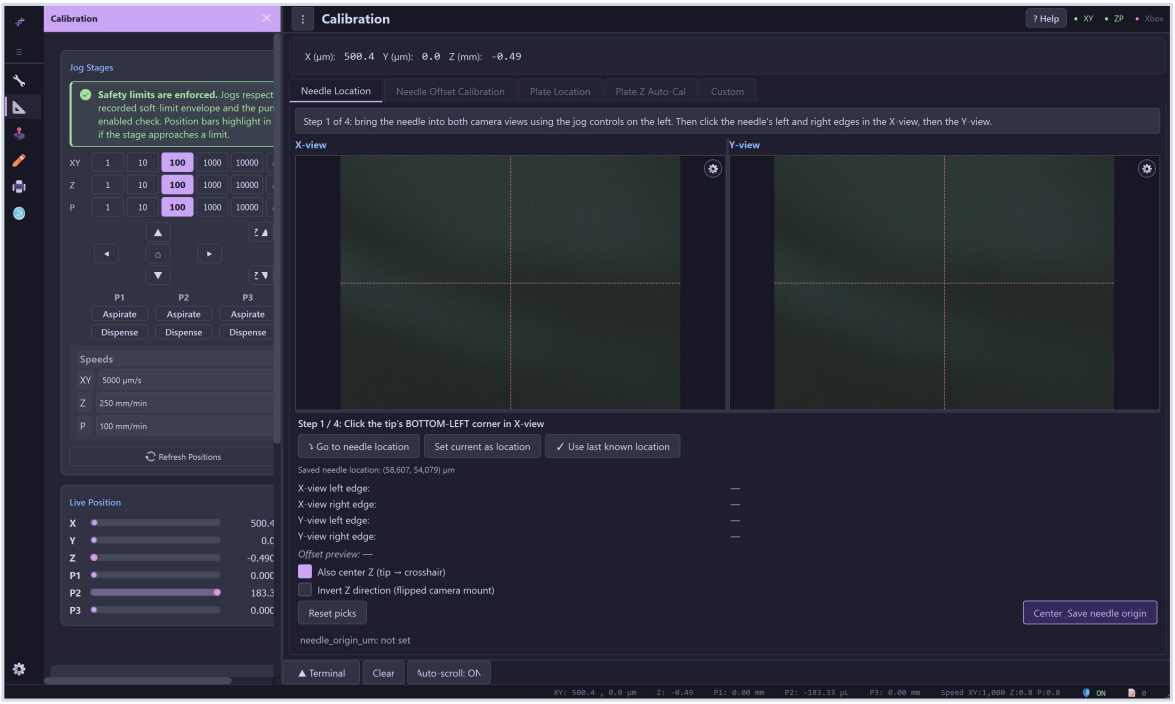
Calibration
Jog Stages
Safety limits are enforced. Jogs respect recorded soft-limit envelope and the pur enabled check. Position bars highlight in if the stage approaches a limit.
XY 1 10 100 1000 10000
Z 1 10 100 1000 10000
P 1 10 100 1000 10000
P1 P2 P3
Aspirate Aspirate Aspirate
Dispense Dispense Dispense
Speeds
XY 5000 µm/s
Z 250 mm/min
P 100 mm/min
Refresh Positions
Live Position
X 500.4
Y 0.0
Z -0.490
P1 0.000
P2 183.3
P3 0.000
Calibration
? Help
X (µm): 500.4 Y (µm): 0.0 Z (mm): -0.49
Needle Location
Needle Offset Calibration
Plate Location
Plate Z Auto-Cal
Custom
Step 1 of 4: bring the needle into both camera views using the jog controls on the left. Then click the needle's left and right edges in the X-view, then the Y-view.
X-view
Y-view
Step 1 / 4: Click the tip's BOTTOM-LEFT corner in X-view
Go to needle location
Set current as location
Use last known location
Saved needle location: (58,607, 54,079) µm
X-view left edge: —
X-view right edge: —
Y-view left edge: —
Y-view right edge: —
Offset preview: —
Also center Z (tip → crosshair)
Invert Z direction (flipped camera mount)
Reset picks
Center Save needle origin
needle_origin_um: not set
Terminal
Clear
Auto-scroll: ON

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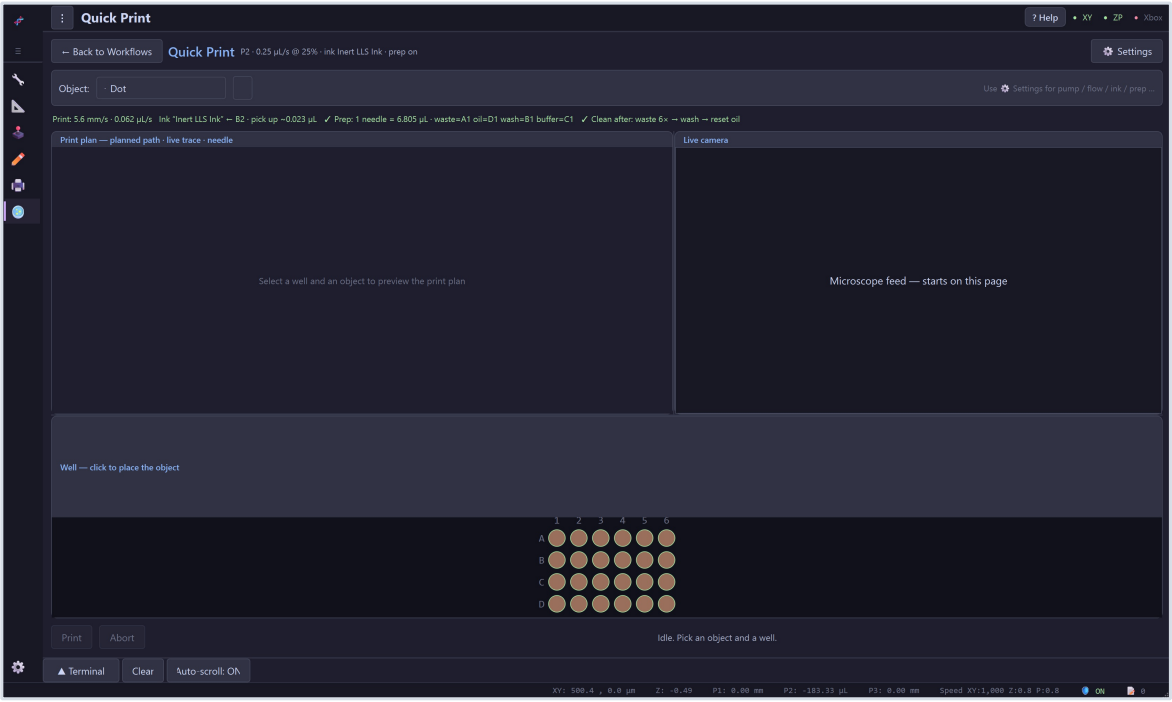

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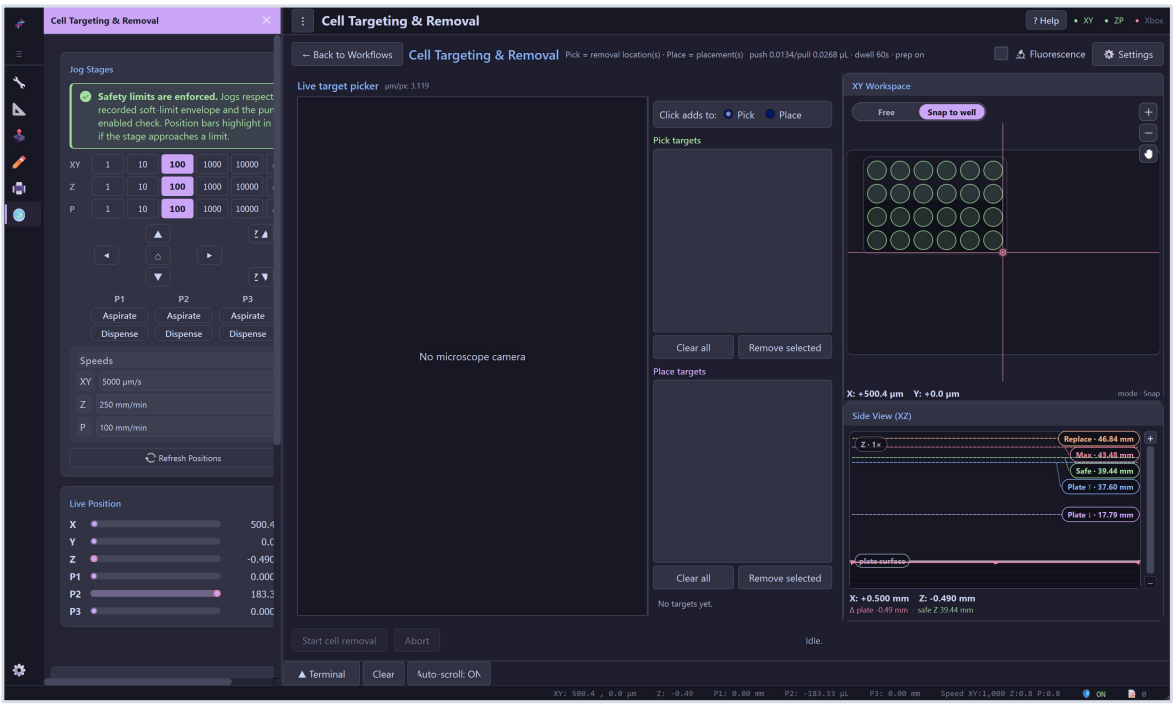
Cell Targeting & Removal
Jog Stages
Safety limits are enforced. Jogs respect recorded soft-limit envelope and the pun enabled check. Position bars highlight in if the stage approaches a limit.
XY 1 10 100 1000 10000
Z 1 10 100 1000 10000
P 1 10 100 1000 10000
P1 P2 P3
Aspirate Aspirate Aspirate
Dispense Dispense Dispense
Speeds
XY 5000 µm/s
Z 250 mm/min
P 100 mm/min
Refresh Positions
Live Position
X 500.4
Y 0.0
Z -0.490
P1 0.000
P2 183.3
P3 0.000
Cell Targeting & Removal
? Help
XY
ZP
Xbox
← Back to Workflows
Cell Targeting & Removal
Pick = removal location(s) · Place = placement(s) push 0.0134/pull 0.0268 µL · dwell 60s · prep on
Fluorescence
Settings
Live target picker µm/px: 3.119
No microscope camera
Click adds to: Pick Place
Pick targets
Clear all
Remove selected
Place targets
Clear all
Remove selected
No targets yet.
XY Workspace
Free
Snap to well
X: +500.4 µm Y: +0.0 µm
mode · Snap
Side View (XZ)
Z · 1×
Replace · 46.84 mm
Max · 43.48 mm
Safe · 39.44 mm
Plate ↑ · 37.60 mm
Plate ↓ · 17.79 mm
plate surface
X: +0.500 mm Z: -0.490 mm
Δ plate -0.49 mm safe Z 39.44 mm
Start cell removal
Abort
Idle.
Terminal
Clear
Auto-scroll: ON

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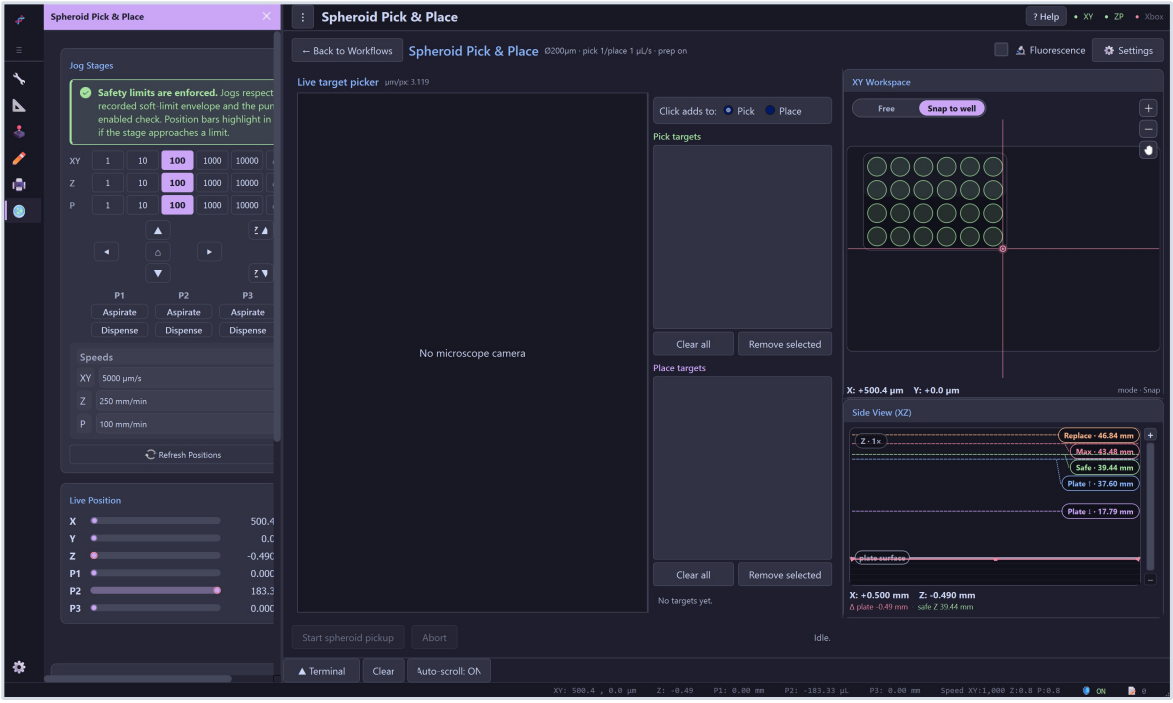
Spheroid Pick & Place
Jog Stages
Safety limits are enforced. Jogs respect recorded soft-limit envelope and the pur enabled check. Position bars highlight in if the stage approaches a limit.
XY 1 10 100 1000 10000
Z 1 10 100 1000 10000
P 1 10 100 1000 10000
P1 P2 P3
Aspirate Aspirate Aspirate
Dispense Dispense Dispense
Speeds
XY 5000 µm/s
Z 250 mm/min
P 100 mm/min
Refresh Positions
Live Position
X 500.4
Y 0.0
Z -0.490
P1 0.000
P2 183.3
P3 0.000
Spheroid Pick & Place
? Help
XY
ZP
Xbox
← Back to Workflows
Spheroid Pick & Place Ø200µm · pick 1/place 1 µL/s · prep on
Fluorescence
Settings
Live target picker µm/px: 3.119
No microscope camera
Click adds to: Pick Place
Pick targets
Clear all
Remove selected
Place targets
Clear all
Remove selected
No targets yet.
XY Workspace
Free
Snap to well
X: +500.4 µm Y: +0.0 µm
mode · Snap
Side View (XZ)
Z · 1×
Replace · 46.84 mm
Max · 43.48 mm
Safe · 39.44 mm
Plate ↑ · 37.60 mm
Plate ↓ · 17.79 mm
plate surface
X: +0.500 mm Z: -0.490 mm
Δ plate -0.49 mm safe Z 39.44 mm
Start spheroid pickup
Abort
Idle.
Terminal
Clear
Auto-scroll: ON
XY: 500.4 , 0.0 µm Z: -0.49 P1: 0.00 mm P2: -183.33 µL P3: 0.00 mm Speed XY:1,000 Z:0.8 P:0.8
ON
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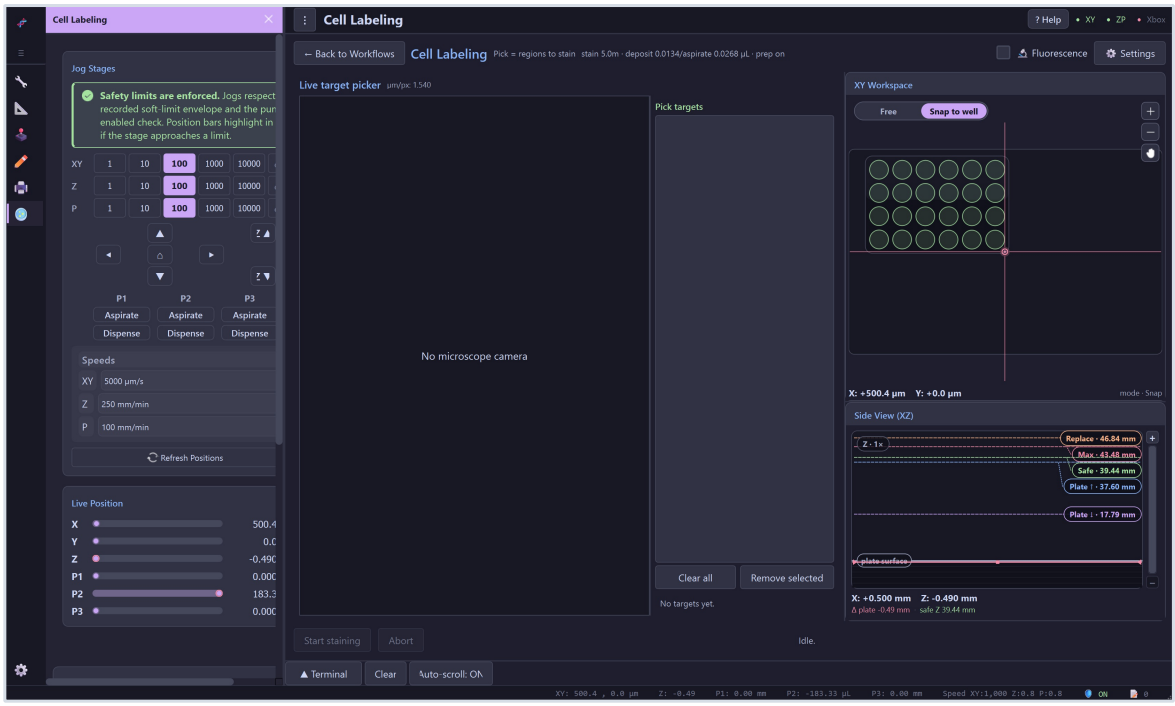
Cell Labeling
Jog Stages
Safety limits are enforced. Jogs respect recorded soft-limit envelope and the pur enabled check. Position bars highlight in if the stage approaches a limit.
XY 1 10 100 1000 10000
Z 1 10 100 1000 10000
P 1 10 100 1000 10000
P1 P2 P3
Aspirate Aspirate Aspirate
Dispense Dispense Dispense
Speeds
XY 5000 µm/s
Z 250 mm/min
P 100 mm/min
Refresh Positions
Live Position
X 500.4
Y 0.0
Z -0.490
P1 0.000
P2 183.3
P3 0.000
Cell Labeling
? Help
XY ZP Xbox
← Back to Workflows
Cell Labeling
Pick = regions to stain stain 5.0m · deposit 0.0134/aspirate 0.0268 µL · prep on
Fluorescence
Settings
Live target picker µm/px 1.540
No microscope camera
Pick targets
Clear all
Remove selected
No targets yet.
XY Workspace
Free
Snap to well
X: +500.4 µm Y: +0.0 µm
mode · Snap
Side View (XZ)
Z · 1×
Replace · 46.84 mm
Max · 43.48 mm
Safe · 39.44 mm
Plate ↑ · 37.60 mm
Plate ↓ · 17.79 mm
plate surface
X: +0.500 mm Z: -0.490 mm
Δ plate -0.49 mm safe Z 39.44 mm
Start staining
Abort
Idle.
Terminal
Clear
Auto-scroll: ON
XY: 500.4 , 0.0 µm Z: -0.49 P1: 0.00 mm P2: -183.33 µL P3: 0.00 mm Speed XY:1,000 Z:0.8 P:0.8
ON
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