

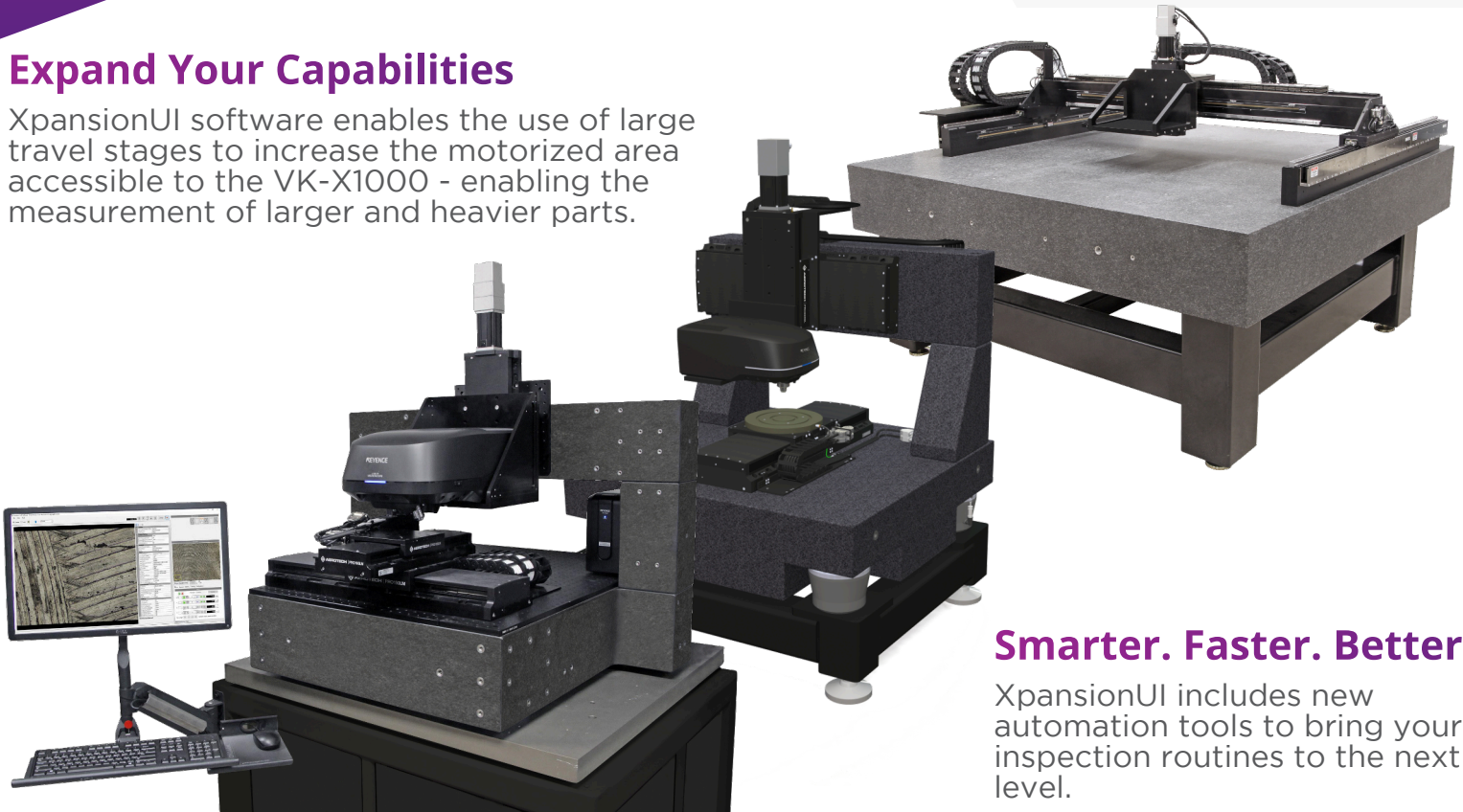
XpansionUI

Get More From
Your Microscope



Expand Your Capabilities

XpansionUI software enables the use of large travel stages to increase the motorized area accessible to the VK-X1000 - enabling the measurement of larger and heavier parts.



Smarter. Faster. Better.

XpansionUI includes new automation tools to bring your inspection routines to the next level.

- Enables -

- Large and Heavy Parts
- External Height Sensors
- Rotation Stages
- Fiducial Registration



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Features

Gantries

Parts too large to move? No problem! Move your microscope instead with our overhead, gantry-style motion systems. With travels available up to 2 meters, we've got your back when it comes to handling those extra-large parts.



Production Floor

Save valuable floor space by housing all your system electronics within the machine frame. Throw in an ergonomic monitor arm with keyboard tray for the perfect production floor inspection workstation.



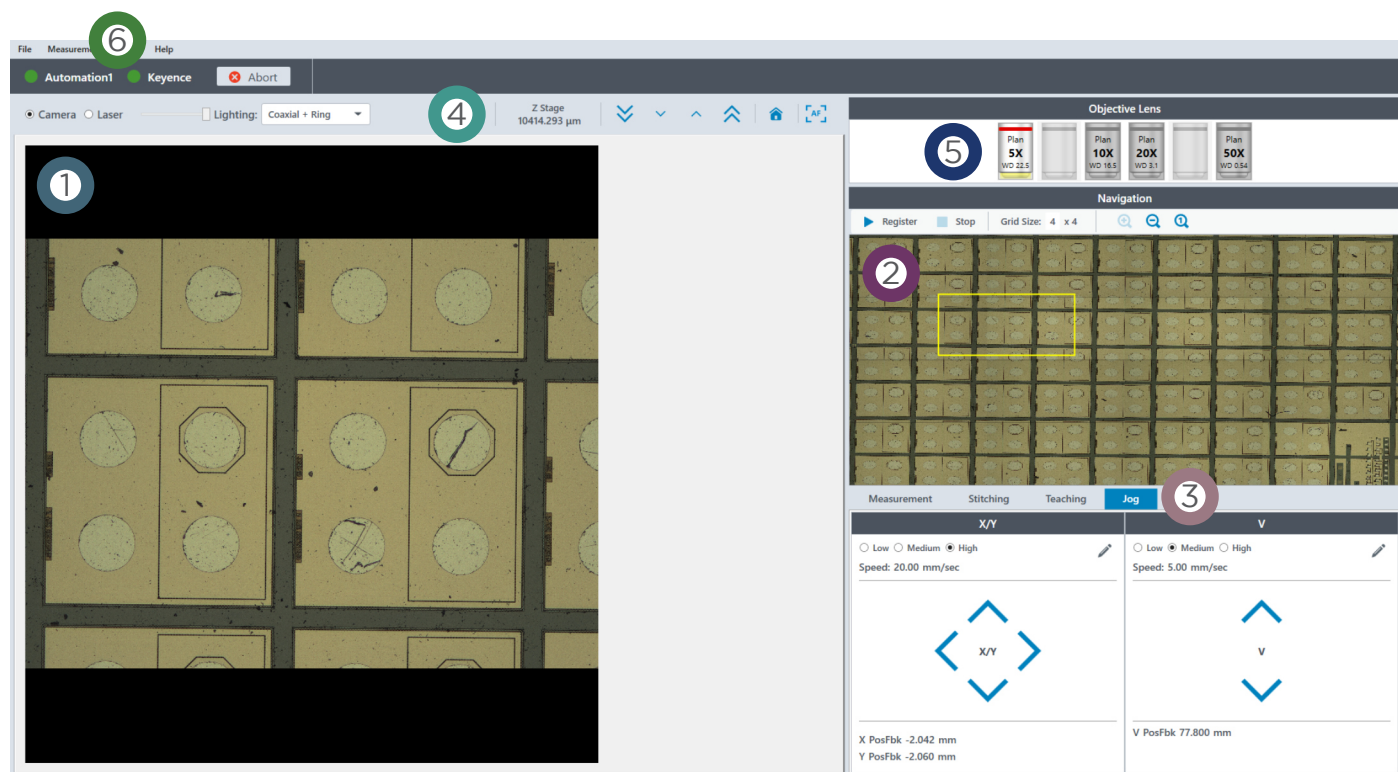
Tailored to your needs

Need something different? With a full staff of design engineers and over 50 years of machine-building experience, we can easily provide you with the custom system you need to solve your inspection challenges.

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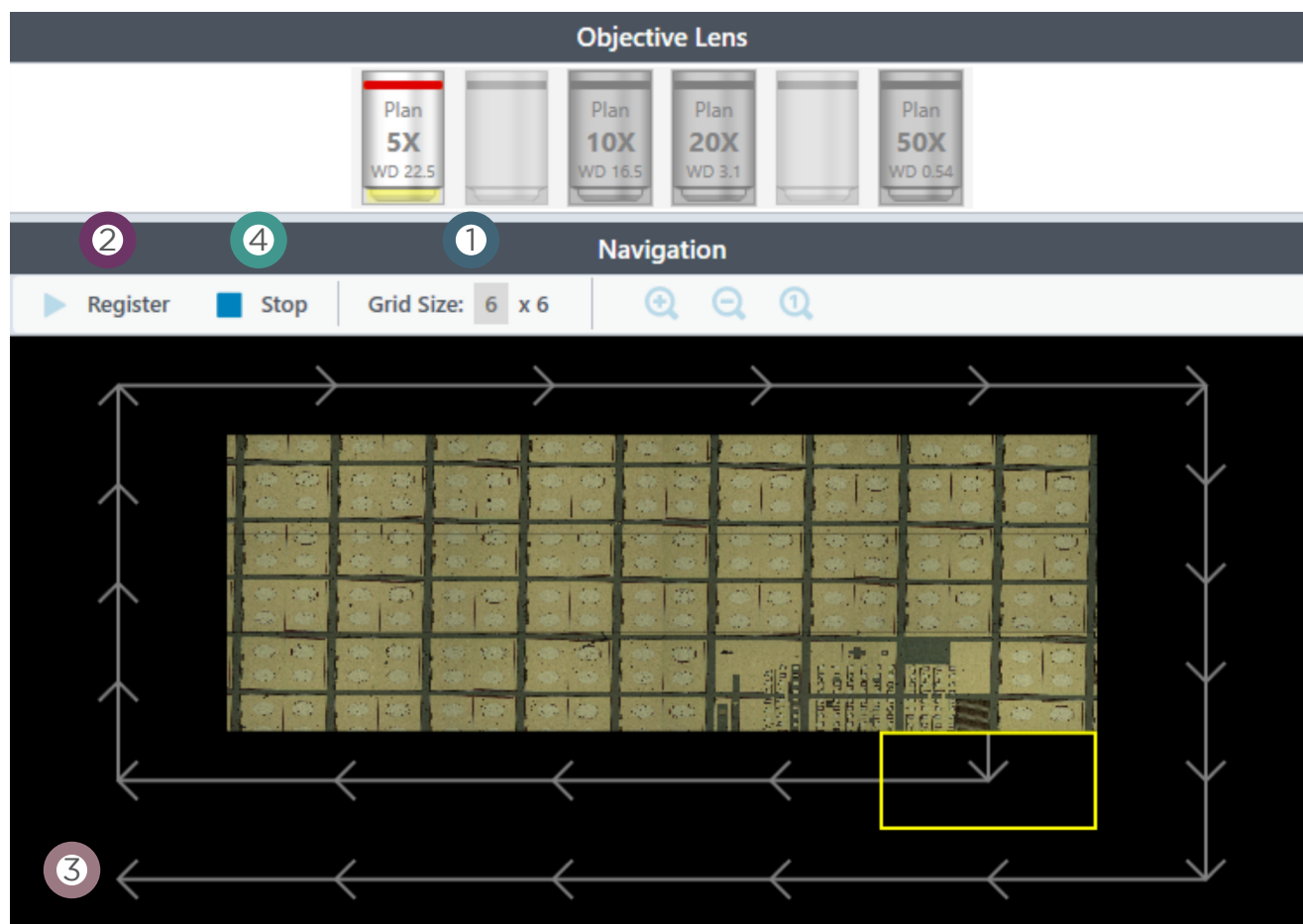
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Overview



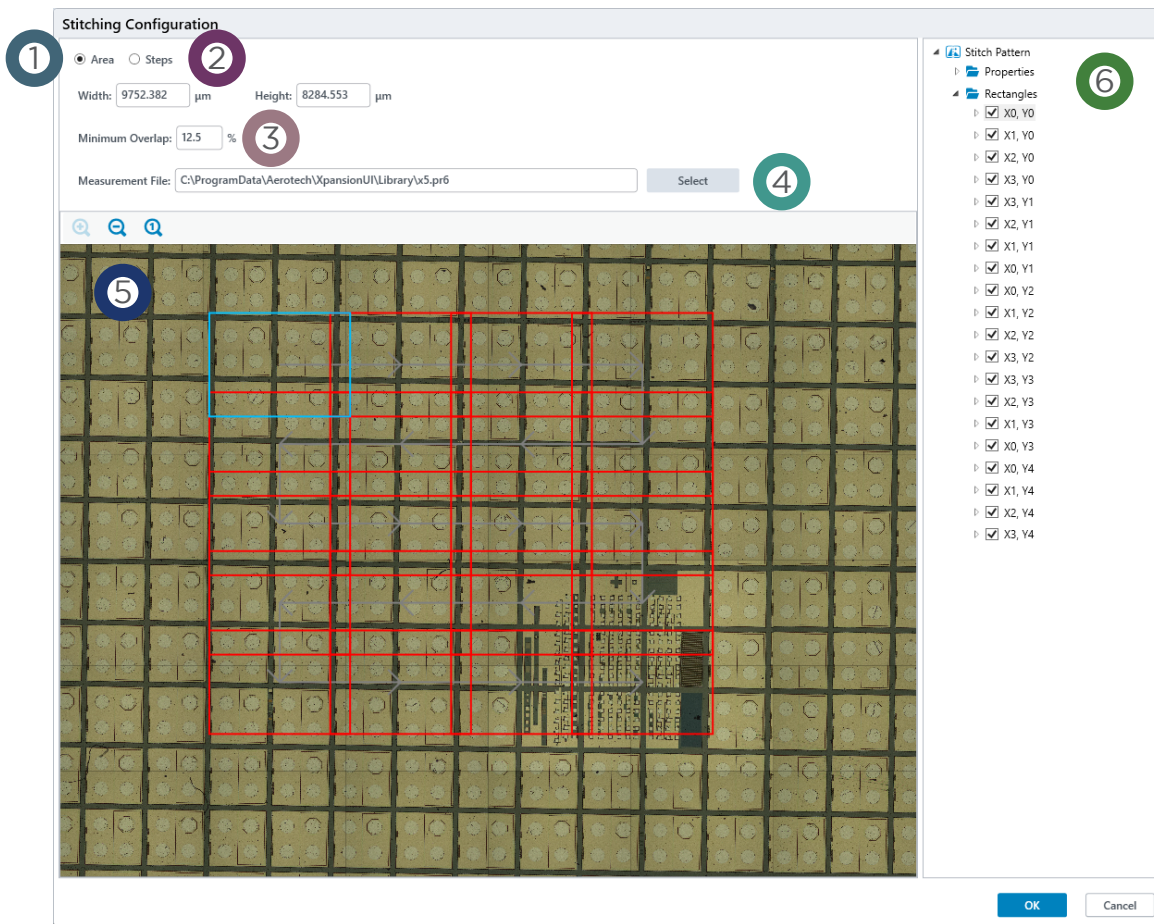
- ① **Live View** - real-time visual image as taken from the VK-X microscope
- ② **Navigation View** - static image, registered by the user to quickly navigate over area of interest
- ③ **Jog/Teach/Stitch Controls** - quick access to tools to move the Field of View, both automation and jogging
- ④ **Microscope Controls** - microscope focus, lighting, and measurement modes easily accessible
- ⑤ **Lens Selection** - easily change installed lenses with a click of the mouse
- ⑥ **Connection Status** - confirm status of both the microscope and motion controllers

Navigation



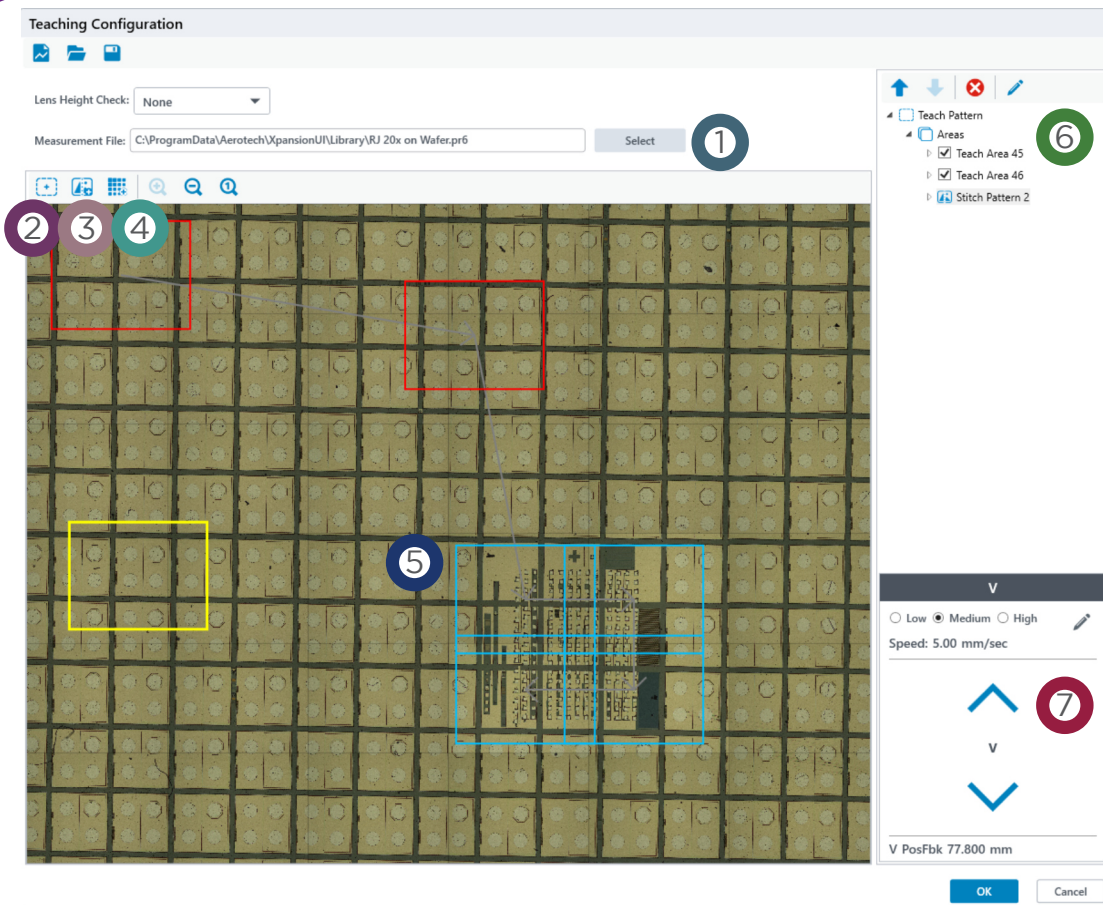
- 1 **Specify Grid Size** - choose the size of your navigation image
- 2 **Begin Image Registration** - one click to begin capturing images
- 3 **Live Path Overlay** - real-time visualization of the capturing progress
- 4 **End Registration** - stop capturing at any time when displayed image is sufficient

Stitching



- ① **Draw or Specify Area** - enter Height/Width or drag FOV corner to draw stitch area
- ② **Specify by Rows/Columns** - alternatively enter number of FOV to capture in X and Y
- ③ **Customize Overlap Percentage** - control amount of overlap between each measurement
- ④ **Measurement Parameter Library** - easy access to all of your measurement condition files
- ⑤ **Navigation Image with Path Overlay** - quickly confirm area of interest will be captured
- ⑥ **Stitch Properties** - view properties and exclude sub-areas with the tree view

Teaching



- ① **Measurement Parameter Library** - optionally specify new parameters for every location
- ② **Add Single Measurement** - add FOV at current position to the measurement routine
- ③ **Add Stitched Area** - add multiple stitched areas to the routine, if needed
- ④ **Add Grid Pattern** - repeat measurement with even grid spacing (X and Y specified separately)
- ⑤ **Drag-n-Drop Tools** - intuitive methods to position measurement areas and preview path
- ⑥ **Teach Routine Properties** - reorder, delete, or edit parts of the routine in the tree view
- ⑦ **Specify V Position** - jog coarse vertical axis to new height on a per-location basis, if needed

Or write your own Teach Routine with our fully-documented file format!

# HeightCheck: None									
Name	X Stage Coordinate(um)	Y Stage Coordinate(um)	V Stage Coordinate(um)	Width(um)	Height(um)	IsStitchArea	IsExcluded	MeasurementFilePath	LensMicro
Teach Area 1	85776.57	-9674.11	78241.5	1401.259847	1050.944885	FALSE	FALSE	C:\ProgramData\Aerotech\XpansionUI\Library\I	
Teach Area 2	73946.93	-9888.28	79241.5	1401.259847	1050.944885	FALSE	FALSE	C:\ProgramData\Aerotech\XpansionUI\Lib	
Teach Area 3	85746.81	-7660.9	77741.5	1401.259847	1050.944885	FALSE	FALSE	C:\ProgramData\Aerotech\Xpansi	
Stitch Pattern 1	76506.3	-2963.42	78241.5	1401.259847	1050.944885	TRUE	FALSE	C:\ProgramData\Aerotech\Xpansi	
Stitch Pattern 1	75280.19763	-2963.42	78241.5	1401.259847	1050.944885	TRUE	FALSE	C:\ProgramData\Aerotech\Xpansi	
Stitch Pattern 1	75280.19763	-2043.843225	78241.5	1401.259847	1050.944885	TRUE	FALSE	C:\Pro	
Stitch Pattern 1	76506.3	-2043.843225	78241.5	1401.259847	1050.944885	TRUE	FALSE		
Stitch Pattern 1	76506.3	-1124.266451	78241.5	1401.259847	1050.944885	TRUE			
Stitch Pattern 1	75280.19763	-1124.266451	78241.5	1401.259847	1050.944885	TRUE			
Teach Area 9	83336.24	-3049.09	78241.5	702.5214731	526.8911048				
Teach Area 10	80509.03	-3049.09	78241.5	702.5214731	526.8911048				

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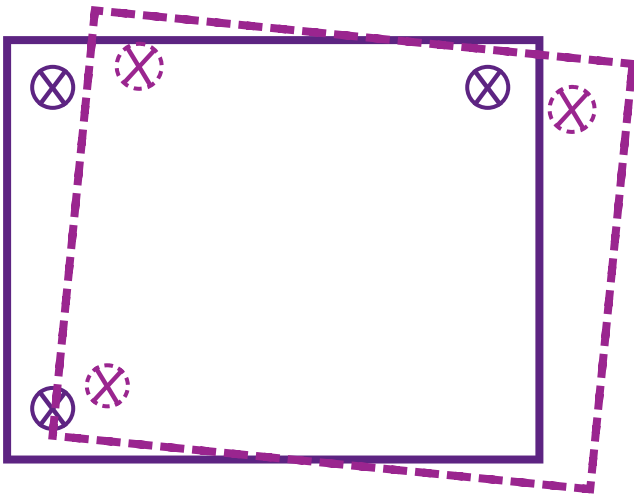
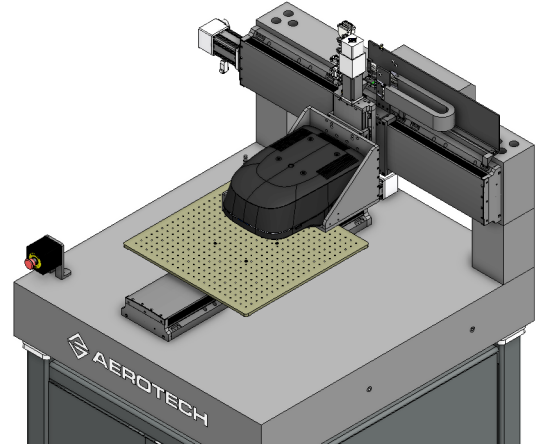
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Features

Motion. Unleashed.

XpansionUI leverages one of the most powerful motion controllers in the world. No matter what challenges your part presents, we've got a solution for you. Size, payload, shape, etc... you name it, XpansionUI has you covered!

Flexible configurations coupled with a simple, modern, easy-to-use interface makes even the most complicated inspection a breeze!



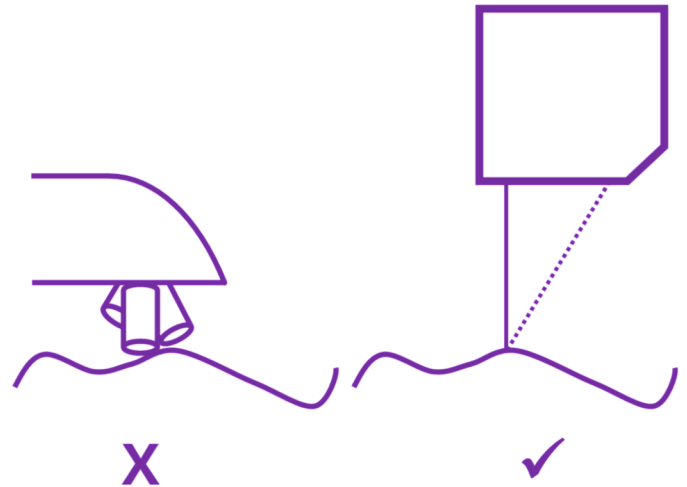
"X" Mark the Spot

Overcome part-to-part misalignment by utilizing XpansionUI's fiducial registration. After part load, use the Live View crosshairs to locate pre-specified registration marks - XpansionUI will automatically calculate and compensate for part misalignment. When a rotary axis is present, your part will automatically be rotated into alignment. Else, XpansionUI will apply coordinate transformations to your inspection routine, ensuring your ability to apply a single routine to all of your parts, even without repeatable fixturing!

Heightened Senses

Protect your parts and your microscope objectives with XpansionUI's support of external height sensors. Allow XpansionUI to check your parts for you - inspecting every measurement location for potential crash conditions before proceeding with the full measurement routine.

Increase your throughput with XpansionUI's Height Optimization feature. Center the measurement range of the microscope's focusing axis for every location of your inspection routine. Doing so allows you to apply a common measurement range across all of your points without having to include buffer to account for part flatness. The end result is a narrower measurement range for all of your measurements, reducing individual measurement time, which can drastically reduce cycle time on those long routines.



And More!

Vertical retraction hops between moves, customizable load/unload positions, specify cleanroom-safe turret rotation coordinates, and more... contact Peak Metrology now to find out what XpansionUI can do for you!

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