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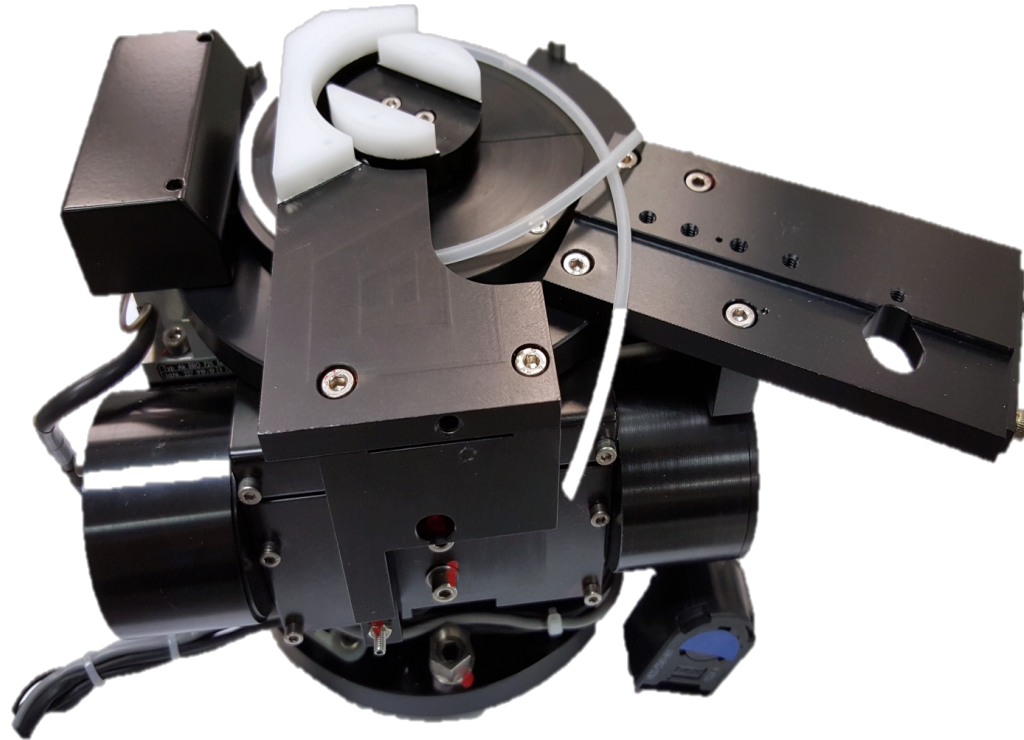
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ACTUATOR P-UNIT REBUILD



The P-unit is an integral component of the Wafer Pre-alignment System. All repairs are of the highest quality to ensure minimum down time and prevent wafer mis-processing on the ASML PAS 5500.



ASML In-House Rebuild Capability

In-House Testing:

Philosophy is to develop custom test rigs for qualification prior to operational environment testing in a fully functional ASML /550, /500 or /60.

Custom Test Rigs:

- Edge Sensor
- WS Power Amp
- LS Power Amp
- Shutter Units
- X-Motion Gripper
- TCUs
- WH Items like Dipod, **PUNIT**, Gripper
- Off-Axis Red Laser
- Slave Box
- Lamp Power Controller



Fully functioning scanners and stepper installed and maintained by 3 Ex-ASML engineers, with a combined 60+ years of experience.

All units must pass test-rig parameters and be installed in the test-tools to verify full functionality before entering inventory.

With many units a 7 day burn-in is used to nearly eliminate the chance of a DOA.



ACTUATOR P-UNIT REBUILD

Initial Inspection & Disassembly

- Inspect for missing parts and damage.
- Assess the condition of the X and Theta axis motion.
- Inspect Z-motion for movement.

Basic Rebuild Steps

- Theta Axis Rebuild
 - Rebuild the positioning motor assembly.
 - Inspect and rebuild the spindle assembly when necessary.
 - Assess and address the encoder sensor assembly.



ACTUATOR P-UNIT REBUILD

Basic Repair Steps (cont.):

- Z-Axis Rebuild
 - Complete rebuild and installation
 - New motors, bearings, etc.
- X-Axis Rebuild
 - Rebuild motor, brushes, etc.
 - Inspect and rebuild linear guide.
 - Align and adjust.
 - Inspect encoder assembly and adjust.
 - Install centering chuck.



ACTUATOR P-UNIT REBUILD

Basic Repair Steps (cont.):

- Vacuum Chucks
 - Replace and align vacuum chuck assemblies.
 - Install assemblies.
- Final Assembly
 - Reassembly major components.
 - Install cable.
 - Inspect and clean.



ACTUATOR P-UNIT REBUILD

Bench Test

- Test Z, X-axis and Theta axis
 - Test for proper functionality.
 - Bench calibrate.

Final Assembly

- Reassembly major components.
- Install cable.
- Inspect and clean.



ACTUATOR P-UNIT REBUILD

Tool Calibrate & Qualify:

- Check for axes control.
- Calibrate wafer handling.
- P-Unit qualification testing
 - Take-over condition.
 - Error free wafer-handling.
 - ES/SMS reproducibility over 1500 wafer aligns.

Packaging:

- Final Cleanroom QA.
- SB packaging.
- Wrap.
- Foam, box and package.



ACTUATOR P-UNIT REBUILDS

Contact EO Technical Solutions for your full wafer handling rebuild services where we diagnose and test on fully function ASML 5500 tools.