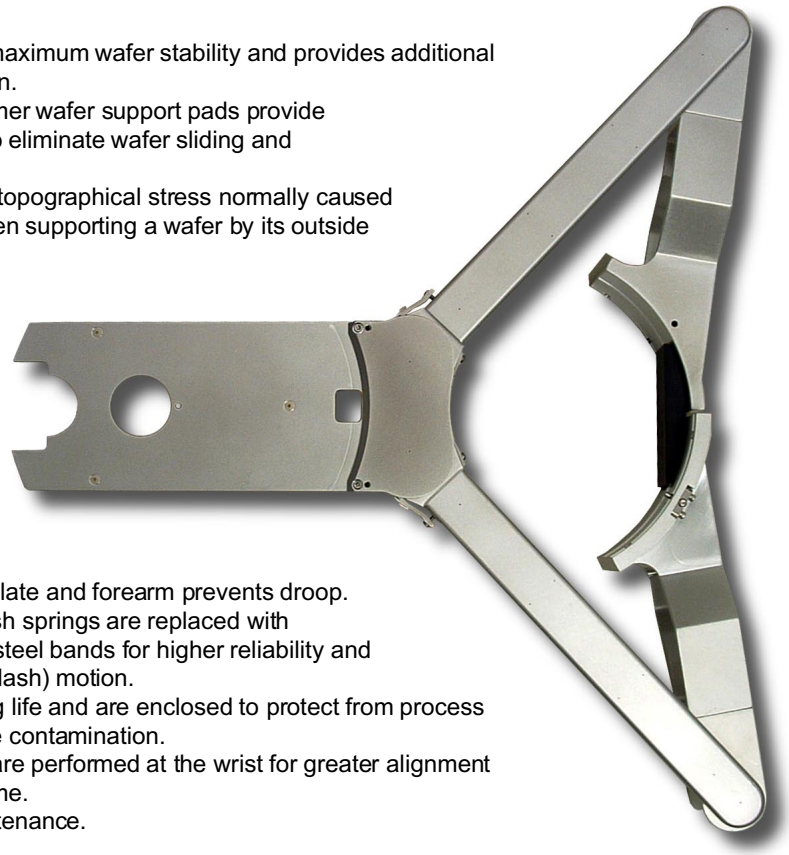
Fabhp Robot

END EFFECTOR

- Blade thickness (0.090 in.) offers maximum wafer stability and provides additional clearance (0.030 in.) for pick motion.
- Three replaceable perfluoroelastomer wafer support pads provide exceptional coefficient of friction, to eliminate wafer sliding and associated particles.
- Location of support pads removes topographical stress normally caused by wafer bowing, which results when supporting a wafer by its outside diameter.
- Blade material is stress-free 6061 aluminum and is also available in ceramic for high-temperature applications.



WRIST

- Tighter connection between wrist plate and forearm prevents droop.
- Interlocking gears with anti-backlash springs are replaced with patented interconnected stainless steel bands for higher reliability and elimination of all side-to-side (backlash) motion.
- Ceramic bearings are used for long life and are enclosed to protect from process deposition and prevent iron particle contamination.
- End effector leveling adjustments are performed at the wrist for greater alignment accuracy and faster setup/teach time.
- Design eliminates preventive maintenance.

ELBOW / LOWER ARM

- Precision-machined components and pressed-fit bearings create a tighter design more resistant to the loads and forces at this location, to eliminate droop.
- Patented split lower-arm design automatically compensates for misalignment of the hub's magnetic rings, to eliminate premature bearing failure.
- Tighter connection between lower arm and forearm dramatically reduces bearing wear.
- Bearings are sealed to prevent iron particle contamination.

HUB BEARINGS/COMPONENTS

- Bearings are ceramic hybrid with hardened 440 stainless races to provide long life.
- Bearing shields prevent vacuum grease migration and reduce particles.
- Patented stainless steel hub spacers provide greater stiffness against twisting and distorting.
- Upper/lower bearing spacers are pinned together to eliminate lateral motion.
- A larger spring force is used to insure bearing assembly stability during motion.
- Entire assembly is tighter and stronger to better support the arm weight and servo accelerations.
- Droop is no longer measurable, reliability is dramatically increased and preventive maintenance is eliminated.

FABWORX SOLUTIONS, INC.
innovative hardware solutions for your fab equipment

phone 512.870.9191
web www.fabworx.com
email info@fabworx.com

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