

## PERFORMANCE ENHANCEMENTS

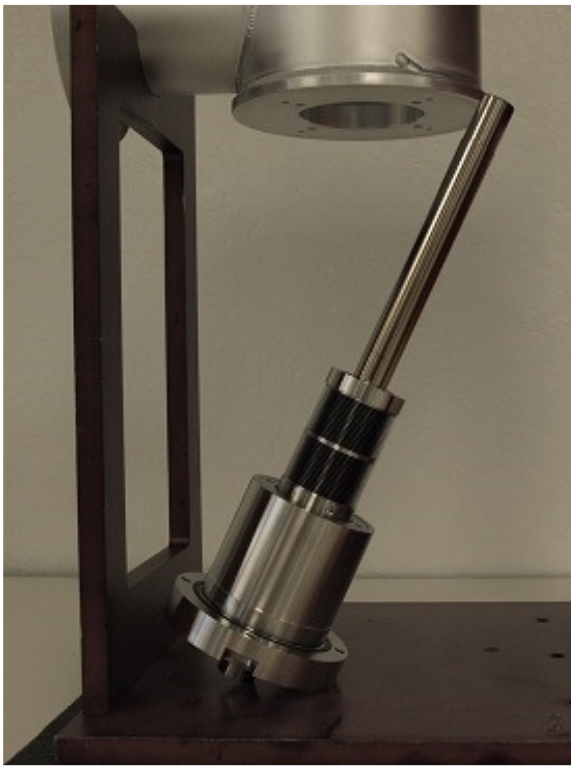
### Sustainable Solutions is Our Ongoing Commitment

Concept Part Solutions is dedicated to extending the lifetime of your maturing semiconductor manufacturing equipment. As your toolsets age and new processes emerge, we pursue every opportunity through our Continuous Improvement Program (CIP) to offer important enhancements that increase the reliability, productivity, and performance of your install base.



## Concept One Dielectric

# FerroFluidic Spindle

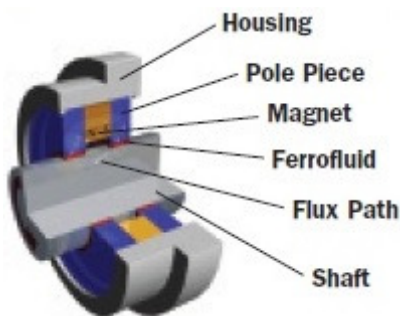


**Wafer Scrap has a significant impact on the profitability of today's semiconductor manufacturers. The Ferrofluidic Spindle Enhancement eliminates a potential source of wafer scrap events.**

The FerroFluidic spindle seal replaces the standard spindle T-seal for Concept One products. This enhanced seal requires no lubrication and offers lower friction.

The FerroFluidic seal capitalizes on the response of a magnetic fluid to an applied magnetic field. Basic seal components include FerroFluidic, a permanent magnet, two pole pieces and a magnetically permeable shaft. The magnetic circuit, completed by the stationary pole pieces and the rotating shaft, concentrates magnetic flux in the radial gap under each pole piece.

The FerroFluidic spindle eliminates T-seal failures spindle backlash, and wafer movement caused by the drying-out of T-seal lubricant. This drop in replacement requires no preventive maintenance and eliminates the recommended 10K\* PM schedule resulting in increased system availability and lowered cost of ownership.



### Upgrade Benefits

- Drop in replacement; once installed, no maintenance required
- FerroFluidic eliminates spindle backlash and wafer movement due to drying T-seal lubricant thus reducing the potential for wafer scrap
- PM eliminated: T-seal replacement no longer required (typical replacement frequency of T-Seal is 1.5 months, with upgrade, replace as fails)
- Lifetime of up to 4 years with rebuild options available

Additional information on back



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Concept One 150mm and 200mm  
**FerroFluidic Spindle**

**Get More Information on  
System Performance Enhancements**

To find out how to improve the performance and productivity of your CPS supported systems, call your local CPS Sales and Service Office for complete ordering information, or visit [www.conceptpartsolutions.com](http://www.conceptpartsolutions.com).

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**System Prerequisites:**

None

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**Ordering Information:**

**FerroFluidic Spindle Upgrade Kit**

**05-113897-00**

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Some Upgrades may require an audit of your System; Contact your local CPS Representative to verify the Upgrade Kit before ordering.