CONCENTRA

Membrane Carrier

FEATURES

- The Concentra carrier offers significantly lower WIW non-uniformity than the legacy carriers using rigid plates.

- Concentra has been designed to reduce the wafer edge non-uniformity.

- Membrane carriers have a large install-base in the CMP industry:

  - Used on over 1,000 CMP tools for 200mm and 300mm

  - Approximately 10,000 heads installed worldwide

Membrane carriers are an industry proven, widely used technology offering low consumables cost and efficient maintainability. Axus designed carriers can be retrofitted onto existing CMP tools, significantly enhancing tool performance and reliability.

The Axus Concentra is a 3-pressure zone membrane carrier with enhanced wafer edge profile performance. Concentra is the go-to choice for advanced CMP applications where global uniformity is key to a successful product. This easy-to-implement carrier is the entry point for next generation CMP applications.

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Legacy 3 Zone Carrier vs Concentra Carrier Comparison
Diameter Scan with 3mm Edge Exclusion

Legacy Carriers (3-5% WIWNU)

Concentra (1.2% WIWNU)

Process Summary:
- Removal rate on 150 mm TOX on Si
- 3 min polish time with Axus BKM recipe

Removal Rate (A/min)

Radius (mm)
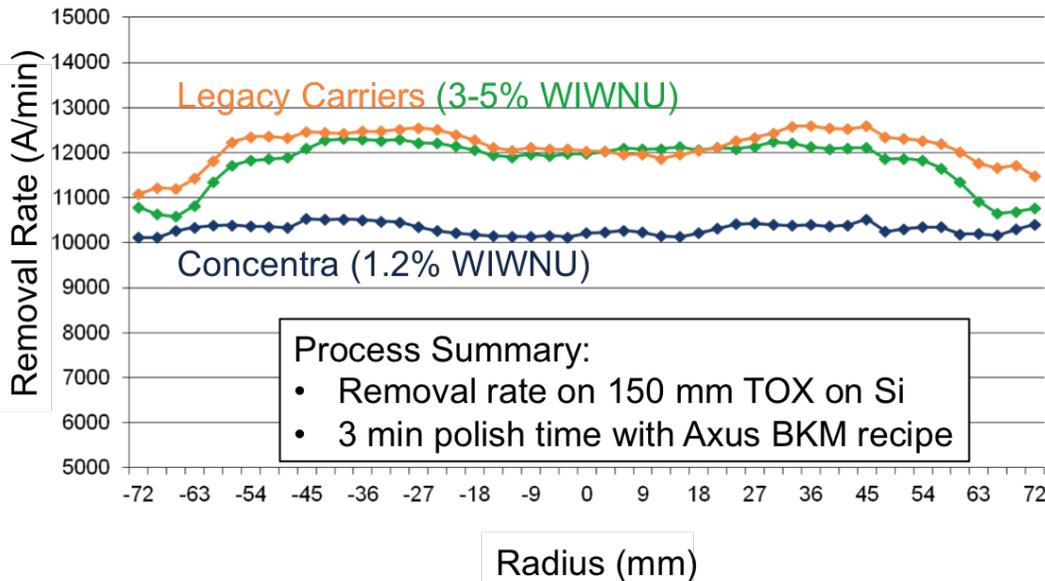
AXUS Tech Concentra Membrane Carrier Pressure Zones	
	• Retaining Ring => RR
	• Main Membrane => MM
	• Inner Tube => IT

Concentra carriers are available for 100 mm, 150 mm and 200 mm wafer sizes.
Retaining Ring (RR), Inner Tube (IT) and Main Membrane (MM) pressures can operate independently from each other.
The Retaining Ring (RR) pressure keeps the wafers from slipping out of the pocket and controls the wafer edge exclusion by attenuating the effects of pad rebounding.
MM provides pressure to the entire wafer, ranging from 0.5 to 10 psi.
Inner tube (IT) applies pressure to the edge zone, 55mm to 70mm for a 150 mm wafer, ranging from 0 to 10 psi.
The MM pressure provides the downforce to the wafer.
The pressure of the IT is in addition to the MM pressure.