



# BARRIER BONDED SLIT VALVE DOOR

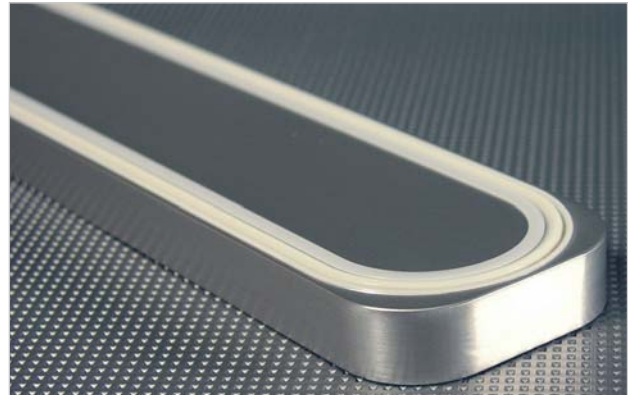
## For Extended Lifetime in Plasma Chambers

### ENGINEERED COMPONENTS

The Barrier Bonded Slit Valve Door or “BBSV” significantly increases the life expectancy and performance of the door’s seal during semiconductor plasma processing. Made from Greene, Tweed’s proprietary high-purity PTFE compound—Avalon®—the shield enhances our unique BSV (Bonded Slit Valve) Door design.

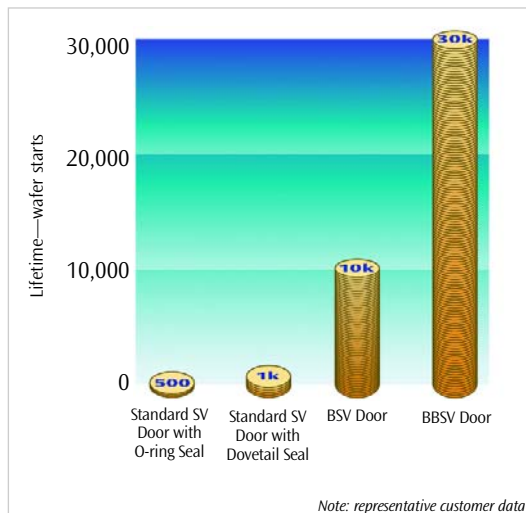
In the past, when O-ring replacement was the only option, cleaning the gland and installing a new O-ring was difficult. Greene, Tweed’s introduction of the BSV Door in 1997 extended seal lifetime by an order of magnitude. Installation requires only removing and replacing a few bolts when replacing the complete BSV door assembly. Still, the highly aggressive nature of plasma radicals in both plasma etch and post-CVD chamber clean applications physically erodes the bonded seal over time.

With the BBSV door design, the Avalon® shield protects the bonded Chemraz® seal from direct plasma attack. Therefore, a barrier bonded-gate design can provide up to a 30-fold increase in seal life during wafer production as compared to standard gate valve designs.



### FEATURES & BENEFITS

- Avalon shield increases slit valve door lifetime by protecting bonded Chemraz seal from plasma radicals.
- Designed to eliminate movement in gland for improved seal integrity and less wear
- Prevents over compression of the seal and metal-to-metal contact of the door to the mating surface which can cause particle generation
- Durable Chemraz withstands dynamic use to increase life expectancy of slit valve doors
- Limited particle generation for lower contamination
- Designed to fill gland for improved seal integrity and elimination of potential leaks
- Minimal compression set for improved seal integrity and life
- Seal bonded to aluminum or stainless steel door to decrease replacement downtime, simplify installation and ensure proper seal orientation without twisting
- No traditional molded parting lines for improved seal integrity



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Statements and recommendations in this publication are based on our experience and knowledge of typical applications of this product and shall not constitute a guarantee of performance nor modify or alter our standard warranty applicable to such products.

Prior to actual use it is recommended compatibility tests be run to determine suitability in a specific application. This is critical where failure could result in injury or damage. A regular program of inspection and replacement should be implemented. Greene, Tweed technical personnel are available to help with a recommendation.