



## Turbo Gate Seals

### Industry

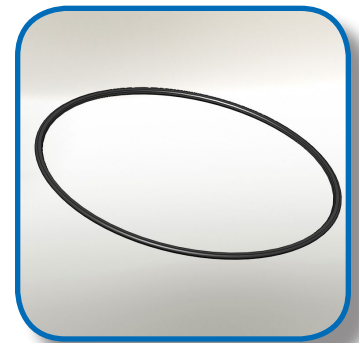
Semiconductor

### Application / Products

Custom turbo gate seal used in conjunction with 300mm CVD process chamber

### Challenge

The semiconductor industry is a fast-paced highly competitive industry; companies are constantly fighting to gain the competitive edge over their competition. One such ERIKS customer, a world leading semiconductor manufacturer engaged ERIKS to help solve some challenges they were experiencing with their current seal used on the turbo gate isolation valve. The struggles they were facing with their current seal included; difficult and time consuming installation, challenges with the seal pulling out during operation as well as the high cost of the current seal.



### Solution

ERIKS engineers and experienced application specialists worked closely with this customer to understand the challenges they were experiencing. The solution was twofold; a design and material change. The ERIKS team came up with a design change that would not only make installation a snap, but it would also solve the issue of the seal pulling out during the manufacturing process. ERIKS was also able to develop a customized material compound that would significantly lower the cost while increasing the performance and life of the seal.

### Results

The customer was provided with samples of the new ERIKS seal to be used in several rounds of extensive testing. As soon as the customer installed the new seal they were amazed at how easy and quickly the new seal was to install. The Phase I testing consisted of running the seal several times to half-life, approximately 10,000 wafers, where the seal was then removed and inspected. To the customer's delight, the ERIKS seal showed little if any evidence of degradation and little to no increases in particle count. In Phase II testing the seal was repeatedly tested to full life PM cycles of 20,000 wafers where the ERIKS seal once again performed flawlessly. Not only did the new seal pass every test it was put through, but the ERIKS seal cost the customer 4x less than what they were currently paying. Success Achieved; ERIKS utilized their knowledge and experience of the specific application to develop the right solution to meet the customer's needs.

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