

# SEMICONDUCTOR

PRESSURE REDUCING REGULATORS



**AMERICAN MADE.  
INNOVATIVE.  
RELIABLE.  
ECONOMICAL.  
PREMIER.**

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# **PREMIER REGULATORS, VALVES, & GAS DELIVERY SYSTEMS** *FOR THE SEMICONDUCTOR INDUSTRY*

## **ENGINEERED FOR PRECISION**

In semiconductor environments where purity, control, and reliability are non-negotiable, our pressure reducing regulators deliver consistent performance across critical gas delivery systems. Designed for ultra-clean applications, they feature low internal volume, minimal particle generation, and exceptional pressure stability—ensuring process integrity and helping manufacturers meet stringent quality standards. With compact designs and contamination-resistant materials, these regulators support high-throughput operations while protecting sensitive equipment and maximizing yield in advanced fabrication facilities.

## **WE'RE EXPERIENCED AND RESPONSIVE.**

Our customers know that if they have a question, they can pick up the phone and give us a call. No automated messaging systems here. We have a team of engineers with over 100 years of regulator design experience ready to assist you. We are always pushing for more sophisticated processes, working on leading-edge designs, while striving to remain personable and responsive.

## TAILORED SOLUTIONS

Every semiconductor facility has unique requirements—and we're built to meet them. Our pressure reducing regulators not only deliver exceptional performance and purity, but can also be customized to fit your exact specifications. Whether you need modified flow paths, specialized materials, or unique connection types, our engineering team collaborates closely with you to develop solutions that integrate seamlessly into your process. With flexible design capabilities and a commitment to precision, we help you optimize performance, reduce downtime, and stay ahead in a rapidly evolving industry.

## AGILE, LOW-OVERHEAD MANUFACTURING

Premier delivers high-quality, American-made regulators designed for the precision and purity demands of semiconductor manufacturing. Our streamlined process—from engineering and programming to testing and delivery—enables rapid response, reduced overhead, and consistent performance from concept to completion.

# TAILORED TOOLS AND PROCESSES.

# DESIGNED TO MEET THE NEEDS OF THE SEMICONDUCTOR INDUSTRY.

## PRESSURE REDUCING REGULATORS

| SEM 2550 SERIES                                                                     | FEATURES                                                                                                                                                                                                                                                     | MAX INLET<br>PRESSURE    | FLOW<br>CAPACITY     | BODY<br>MATERIAL                                          |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|----------------------|-----------------------------------------------------------|
|  | <ul style="list-style-type: none"><li>• 15 Ra microinch (standard)<br/>10 Ra microinch (optional)</li><li>• Inboard leak rate:<br/>&lt;1x10<sup>-9</sup> ATM SCCS, He</li><li>• Hastelloy diaphragm</li><li>• Outlet pressures up to<br/>150 psig.</li></ul> | 3500 PSIG /<br>241.3 BAR | Cv: 0.08<br>Cv: 0.20 | 316L Stainless Steel<br>Electropolished<br>(15 Ra max)    |
|                                                                                     |                                                                                                                                                                                                                                                              |                          |                      | 316L VAR Stainless<br>Steel Electropolished<br>(10Ra max) |

### **Custom Engineering & Design**

- Experienced engineering team with proven semiconductor expertise
- Precise, application-specific regulator solutions
- Support for unique connection types, mounting configurations, and compact footprints
- Custom regulator configurations

### **High-Purity Manufacturing**

- Class 100 cleanroom assembly
- Electropolished and passivated wetted surfaces
- Orbital welding

### **Material Expertise**

- Use of corrosion-resistant and ultra-clean materials (e.g., 316L stainless steel, 316L VAR Stainless Steel, Hastelloy, PTFE)
- Compatibility with high-purity and reactive gases

### **Precision Performance**

- Precise pressure control and repeatability
- Low internal volume and minimal dead space
- High-resolution pressure adjustment and stability

### **Quality Assurance & Testing**

- Inboard Helium leak testing (down to  $1 \times 10^{-9}$  atm-cc/sec)
- Certificate of conformance and optional traceability documentation

### **Flexible Production & Scalability**

- Low-volume custom builds and high-volume production capabilities
- Short lead times and agile manufacturing processes

### **Technical Support & Collaboration**

- Documentation and CAD models (STEP files, datasheets)

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PRECISION PRESSURE CONTROL  
FOR THE SEMICONDUCTOR INDUSTRY

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