# Middlesex Gases & Technologies Inc.

# STAINLESS STEEL HIGH PURITY 2-STAGE REGULATOR Series 3500

# DESCRIPTION

The Series 3500 two stage regulators are designed and constructed for both high purity and general purpose applications. While compact in design these regulators provide outstanding performance, comparable to most larger diaphragm competitive models. They are an excellent choice for use with ultra high purity gases or gas mixtures having a full cylinder pressure of 1000 psig or more. They are rugged and versatile enough for the laboratory or plant.

#### **FEATURES**

- High purity diffusion resistant, metal diaphragm construction on both stages.
- · Encapsulated seats on both stages.
- Diffusion resistant, stainless steel diaphragm packless control valve installed on outlet as standard.
- Designed to pass an inboard helium leak-rate test of 1x10<sup>-9</sup> cc per sec.
- All parts ultrasonically cleaned prior to assembly.
- Optional interstage safety relief valve available.

# **APPLICATIONS**

The 3500 Series regulators are ideal for critical pressure reduction applications, where the precise control of pressure or flow is required. They are also very useful for controlling the pressure of gas mixtures containing corrosive gases, such as ammonia, hydrogen sulfide, sulfur dioxide, and low levels of the corrosive halogen gases, like chlorine.

## **SPECIFICATIONS**

HOW TO ORDER\*\*\*

Max. Inlet Pressure: 3000 psig Operating Temp. Range: -40° to +185° F. Flow Coefficient (C<sub>V</sub>): 0.08 standard, 0.2 optional\*\* Inlet and Outlet: 1/4" NPT female Outlet Valve Standard Delivery Pressure Rise: 0.02 psig max. per 100 psi inlet

pressure decay.

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## **MATERIALS OF CONSTRUCTION**

Body: 316 stainless steel Nozzle Assemblies: 316 stainless steel Nozzles: 316 stainless steel Seat: 1st stage - Kel-F®

2nd stage - Kel-F® Diaphragm: stainless steel Diaphragm Seal: Teflon® Inlet Filter: stainless steel Bonnet: nickel plated aluminum Gauges: 316 stainless steel Knob: aluminum - black anodized



EZ Mounting Brackets (see page 101).

### **OUTLET OPTIONS**

Model	Del. Press. Range	Del. Press. Gauge	Inlet Press. Gauge		P/N Suffix
Number	psig	psig	psig	No Outlet Valve	NV
3501-10-CGA*	5-10	0-30	0-3000	1/4" Compression Fitting	T4F
3501-25-CGA*	5-25	0-30	0-3000	1/8" Compression Fitting	T2F
3501-50-CGA*	5-50	0-100	0-3000	1/4" NPT Male	P4M
3501-100-CGA*	10-100	0-200	0-3000	1/4" Hose Barb	4HB
3501-250-CGA*	25-250	0-400	0-3000		
3501-500-CGA*	100-500	0-1000	0-3000		

\*Specify CGA Connection Number when ordering.

\*\*Add "HF" to basic model number (i.e. 3501 HF-25-CGA).

\*\*\*For panel mounting bonnet add "PM" to base number (i.e., 3501PM-50-CGA).

Warning: A Purge assembly (see pages 96 and 97) is strongly suggested when using the above regulators with any corrosive gas.