

# Models VREA, VRSA

## Ultra-High-Purity, Steam or Electrically Heated, Vaporizing Regulators

Models VREA and VRSA spring-loaded pressure-reducing regulators are designed to heat and vaporize media before and after pressure reduction to keep condensable liquids in their gas phase. The media is heated while passing through coiled tubes within a heating chamber. Media contact materials of 316 Stainless Steel, Elgiloy and Vespel minimize the effects of extreme temperature and provide good corrosion resistance.

The Model VREA incorporates a 120 volt/100 watt thermostatically controlled heating element, with a digital temperature display visible through a window in the junction box. It also has a 4-20 mA analog output capability for remote temperature monitoring and data acquisition. The controlling circuit is housed in an explosion-proof, dust tight junction box compliant with National Electric Code requirements for Class 1, Div. 1 – Group B, C and D standards. The Model VRSA is a steam heat version of the vaporizing regulator.

These regulators are commonly used in gas chromatography, hydrocarbon sampling, fluid fractionalization, sample conditioning and to preheat light hydrocarbon streams.



VREA Regulator



VRSA Regulator

### Standard Features

- 270° Turn Potentiometer Adjustment allows high resolution in temperature control (Model VREA).
- Control Circuit is housed in an explosion-proof, dust tight junction box compliant with NEC requirements for Class 1, Div. 1 – Groups B, C and D standards (Model VREA).
- LCD Temperature Display and 4-20 mA analog output (Model VREA)
- Metal-to-Metal Diaphragm to Body Seal (no backup o-ring) assures maximum diffusion resistance.
- Pressure rated per criteria of ANSI/ASME B31.3.
- Cleaned to CGA 4.1 and ASTM G-93 Intermediate Level.

Filter: 10 micron  
 Flow Coefficient: Cv = 0.02  
 Inlet and Outlet Connections:  
 ¼" NPT female  
 Steam Ports (Model VRSA):  
 ¼" NPT female  
 Approximate Weight:  
 Model VREA: 6 lbs.  
 Model VRSA: 3 lbs.

### Materials of Construction

Body, Bonnet and Heat Exchanger Tube:  
 Type 316 Stainless Steel  
 Other Metal Parts Exposed to Gas:  
 Type 316 Stainless Steel  
 Seat: Vespel SPI®  
 Diaphragm and Spring: Elgiloy®

### Optional Features

- Mounting Ring permits regulator to be panel mounted
- 240 VAC powered unit

### Specifications

Maximum Inlet Pressure: 6000 psig  
 Delivery Pressure Range: See Table I  
 Operating Steam Pressure (Model VRSA):  
 650 psig  
 Maximum Media Temperature: 500°F  
 Ambient Temperature Range:  
 -4°F to 149°F  
 -4°F to 122°F (240 VAC option)  
 Heater Temperature Control:  
 270° Turn 122°F to 572°F  
 Heater Temperature Analog Output:  
 176°F to 518°F (4-20 mA)  
 Power Requirements:  
 120 VAC or 240 VAC (option)  
 0.83 amps maximum  
 1.67 amps maximum (240 VAC option)

Table I

Part No. Electric Models	Part No. Steam Models	Delivery Pressure Range (psig)
VREA-25	VRSA-25	0–25
VREA-50	VRSA-50	0–50
VREA-100	VRSA-100	0–100
VREA-250	VRSA-250	0–250
VREA-500	VRSA-500	0–500

### Optional Equipment

Equipment	Part No.
Panel Mounting Ring*	PM3803
240 VAC Version	VREA-240V-(PSIG)

\* If selected, these items are not installed on the regulator. They are shipped as separate items.