

Models VRE, VRS

Ultra High Purity, Corrosive Resistant, Vaporizing Regulators

Models VRE and VRS 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 VRE incorporates a 120 volt /150 watt thermostatically controlled heating unit. The controlling circuit is housed in an explosion-proof, dust tight junction box compliant with National Electric Code requirements for Class 1 – Groups B, C and D standards. The Model VRS 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 heavy process fluids.



VRE Regulator



VRS Regulator

Standard Features

- Multi-turn Potentiometer Adjustment allows high resolution in temperature control (Model VRE)
- Metal to Metal Diaphragm to Seal (without back-up o-ring) assures maximum diffusion resistance.
- High Purity Regulator Design permits vacuum purging of regulator.
- 1/16" NPT Female Bonnet Vent Port allows bonnet to be connected to a vent line or disposal system as a precaution in the unlikely event of a diaphragm failure.
- Pressure Rated per criteria of ANSI / ASME B31.3
- Filter in Inlet traps foreign matter, extends regulator life and reduces maintenance.

Optional Features

- Mounting Ring permits regulator to be panel mounted
- 50 Watt version approved by the CSA is available.

Specifications

Maximum Inlet Pressure: 3500 psig

Delivery Pressure Range: See Table I

Operating Steam Pressure (Model VRS): 250 psig

Operating Temperatures:
 Model VRS: maximum at 400°F
 Model VRE (150W): up to 450°F
 Optional 50W: up to 350°F

Operating Temperature (media):
 -15°F to 450°F

Ambient Operating Temperature Range:
 -40°F to 104°F

Filter: 40 micron

Flow Coefficient: $C_v = 0.6$

Inlet and Outlet Connections:
 1/4" NPT female

Steam Ports (Model VRS): 1/4" NPT female
 Approximate Weight: 5 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®

Diaphragm and Spring: Elgiloy®

Table I

| Part No. Electric Models | Part No. Steam Models | Delivery Pressure Range (psig) |
|--------------------------|-----------------------|--------------------------------|
| VRE-25 | VRS-25 | 1-25 |
| VRE-50 | VRS-50 | 1-50 |
| VRE-100 | VRS-100 | 1-100 |
| VRE-250 | VRS-250 | 2-250 |
| VRE-500 | VRS-500 | 3-500 |

Optional Equipment

| Equipment | Part No. |
|-------------------------------------|----------------|
| Panel Mounting Ring* | PM3803 |
| 50 Watt version approved by the CSA | VRE-50W-(PSIG) |

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