

# AVR4 Series

# Electrically Heated Pressure Reducing Regulator



The new AVR4 Series electrically heated vaporizing pressure reducing regulator is designed to heat and/or vaporize a gas or liquid sample before entering an analyzer system. The design allows easy cleaning of the heating element and screen.



## features

- ⊢ Low internal volume.
- ⊢ Standard Hastelloy C22<sup>®</sup> diaphragm for superior strength and corrosion resistance.
- ⊢ Convuluted diaphragm provides outlet pressure stability with changes in flow.
- ⊢ Integral diaphragm stop provides additional safety measure.
- ⊢ Meets NACE standard MR-01-75.
- ⊢ CSA and Cenelec certified. (Pending)
- ⊢ Field serviceable heat transfer element.

## materials of construction

### Wetted

Pressure control and heat exchanger  
 Bodies . . . . . 316L Stainless Steel or Monel<sup>®</sup>  
 Seat . . . . . PCTFE, PEEK<sup>™</sup>, or Vespe<sup>®</sup>  
 Heater Seal . . . . . PEEK<sup>™</sup>  
 Back-up O-ring . . . . . Viton<sup>®</sup>  
 Carrier . . . . . Stainless Steel  
 Compression Member . . . . . Inconel<sup>®</sup>  
 Diaphragm . . . . . Hastelloy C-22<sup>®</sup>  
 Poppet . . . . . Elgiloy<sup>®</sup>  
 Poppet spring . . . . . Inconel<sup>®</sup>

### Non-Wetted

Cap . . . . . 303 Stainless Steel  
 Adjusting screw . . . . . 416 Stainless Steel  
 Condulet . . . . . Cast iron and aluminum

## electrical specifications

Power requirements . . . . . 120V or 240V,  
 50/60 Hz  
 Heater wattage . . . . . 40, 100, 150, 200 watt  
 Temperature controller . . . . . Proportional,  
 75°F to 220°F or 215°F to 380°F  
 (24°C to 105°C or 102°C to 194°C)  
 Ranges approximate  
 Condulet . . . . . Crouse Hinds, UL and CSA  
 listed Class 1, Groups A,B,C,D  
 Class 2, Groups E,F,G

## operating conditions

Maximum Inlet pressure . . . . . 3500 psig (241 barg)  
 Outlet pressure . . . . . 1-10 psig (.07-.7 barg),  
 1-30 psig (.07-2 barg), 1-60 psig (.07-4 barg),  
 2-100 psig (.14-7 barg), 3-250psig (.2-17 barg),  
 5-500 psig (.3-34.5 barg)  
 Temperature of flow media . . . . . -40°F to 500°F  
 (-40°C to 260°C)

## functional performance

Design proof pressure . . . . . 5250 psig (362 barg)  
 Design burst pressure . . . . . 11,500 psig (793 barg)  
 Flow capacity . . . . . C<sub>v</sub> 0.06 Nominal  
 (Full Unit .03 using ANSI/ISA S 75.02)  
 Supply pressure effect . . . . . 0.5 psig per 100 psig  
 (.03 barg per 7 barg)

### Design Leak rate:

Outboard . . . . . 1 x 10<sup>-9</sup> scc/sec He  
 Inboard . . . . . 1 x 10<sup>-9</sup> scc/sec He

## internal volume

High Pressure Inlet 0.57 cc, Overall 4.6 cc  
**standard connections**  
 1/4" NPT outlet ports, 1/8" NPT or 1/8" low vol-  
 ume internal compression inlet port

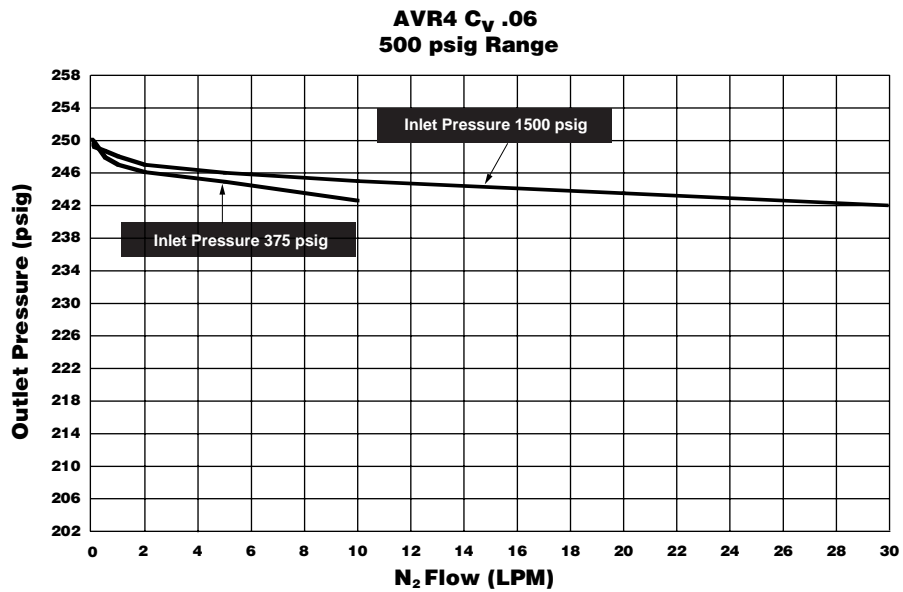
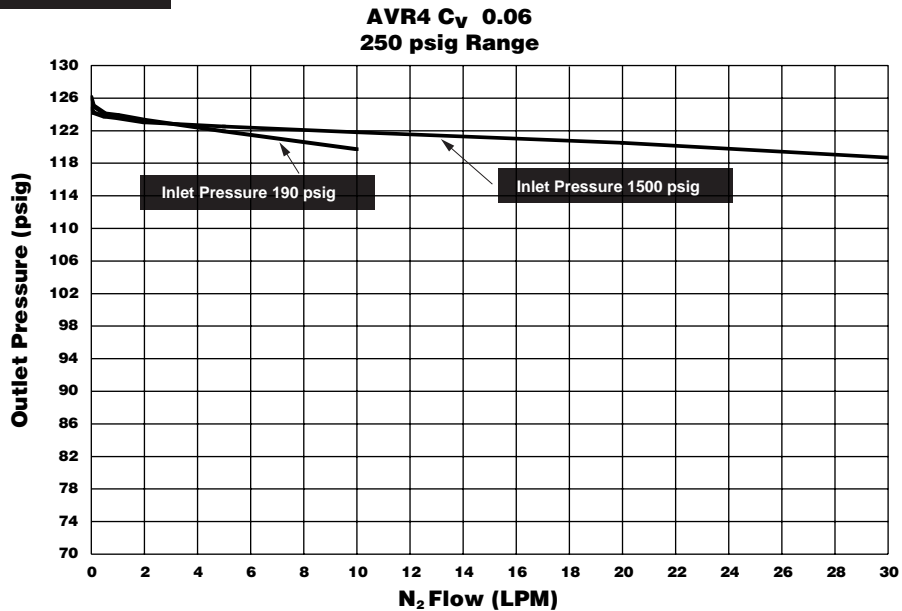
## approximate weight

8 lbs (2.0 kgm)



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## Flow Information



## Seat Operating Parameters

Seat Material

PCTFE (formerly Kel-F 81®)

PEEK™

VespeI®

Temperature

150°F (66°C)

275°F (135°C)

500°F (260°C)

Inlet Pressure

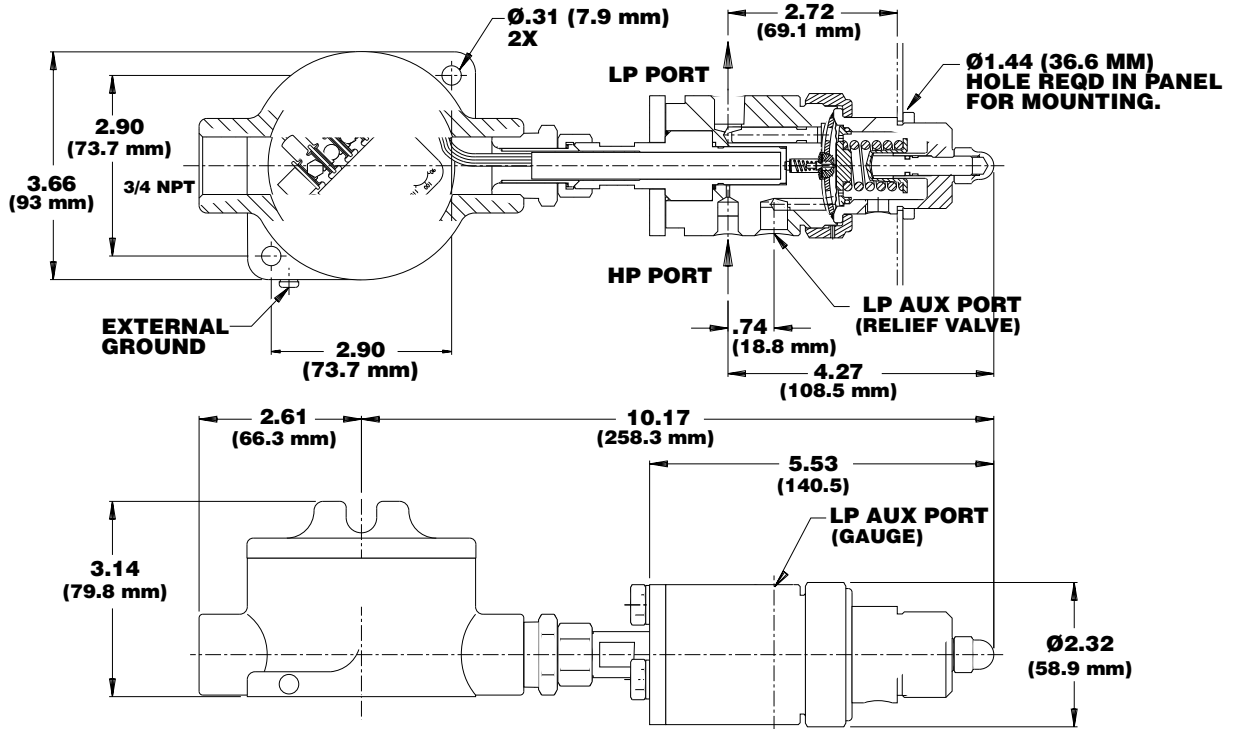
3500 psig (241 barg)

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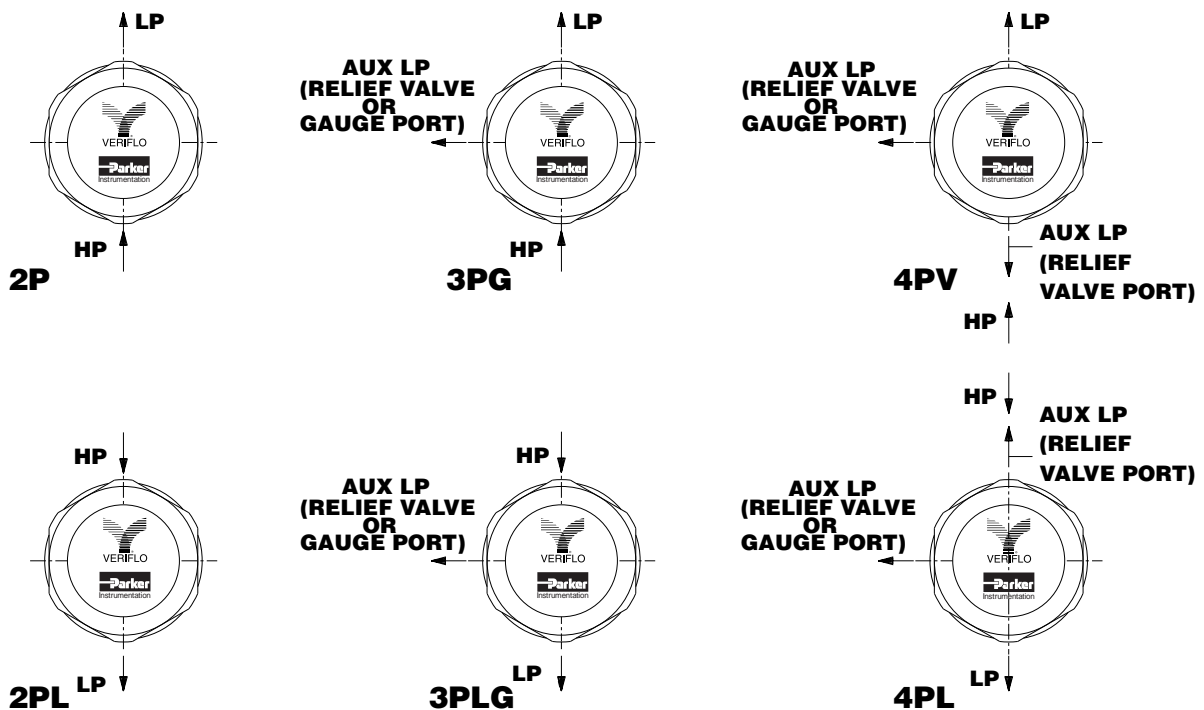
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## Cross Sectional View and Installation Dimensions

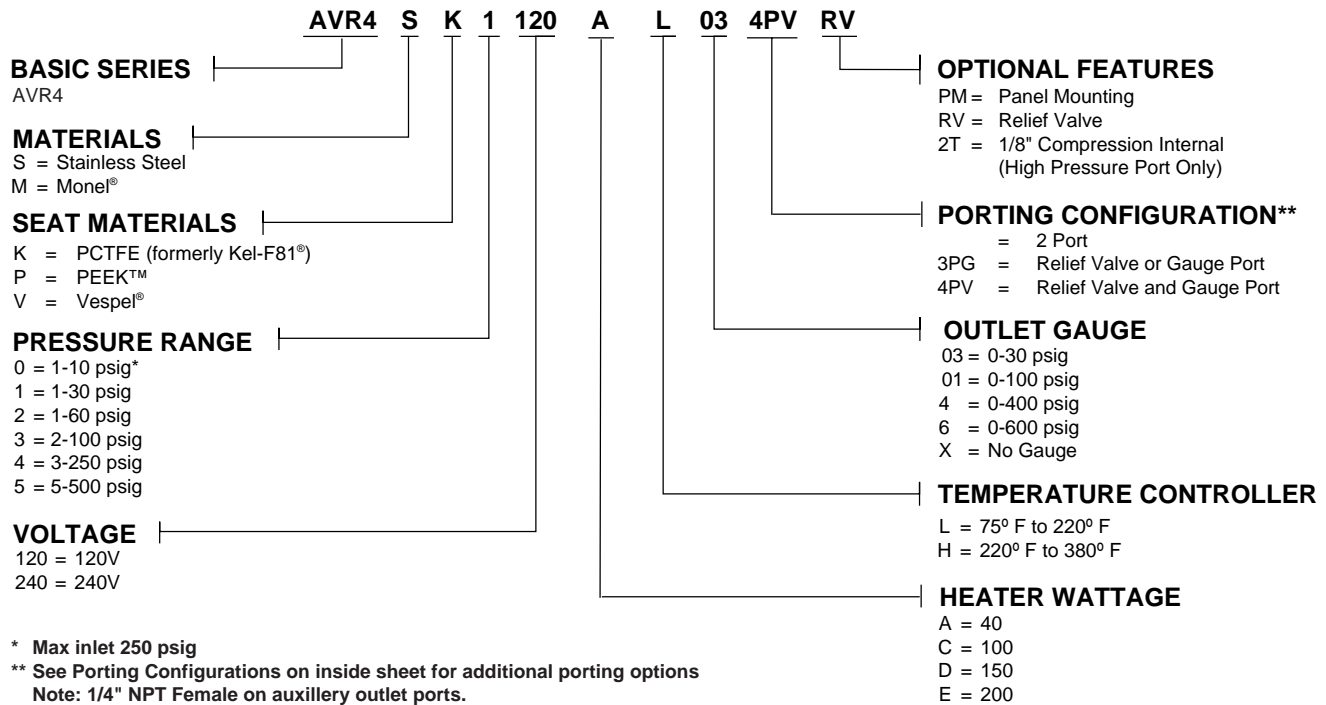


## Porting Configurations



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## Ordering Information



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### Parker Hannifin Corporation

Veriflo Division  
250 Canal Boulevard, P.O. Box 4034  
Richmond, CA 94804-0034  
Phone (510) 235-9590 • Fax (510) 232-7396

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