

AVR3 Series

Steam Heated Pressure Reducing Regulator



The AVR3 Series steam heated pressure reducing vaporizing 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 C-22[®] diaphragm for superior strength and corrosion resistance.
- ↳ Convoluted diaphragm provides outlet pressure stability with changes in flow.
- ↳ Integral diaphragm stop provides additional measure of safety.
- ↳ Meets NACE standard MR-01-75.
- ↳ Field serviceable heat transfer element.

materials of construction

Wetted

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

Nonwetted

Cap 303 Stainless Steel
 Cap nut 316L Stainless Steel

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), 3-250 psig (.2-17 barg),
 5-500 psig (.3-34.5 barg)
 Maximum steam supply 600 psig, 500 °F
 (41 barg), (260° C)
 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_v 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 10⁻⁹ scc/sec He
 Inboard 1 x 10⁻⁹ 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 volume internal compression inlet port, 3/8" NPT steam supply connections

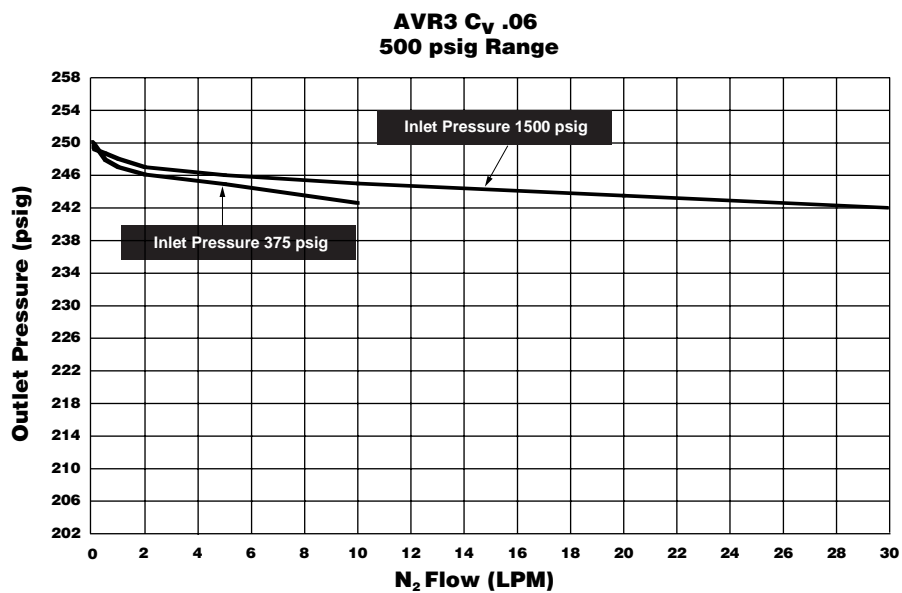
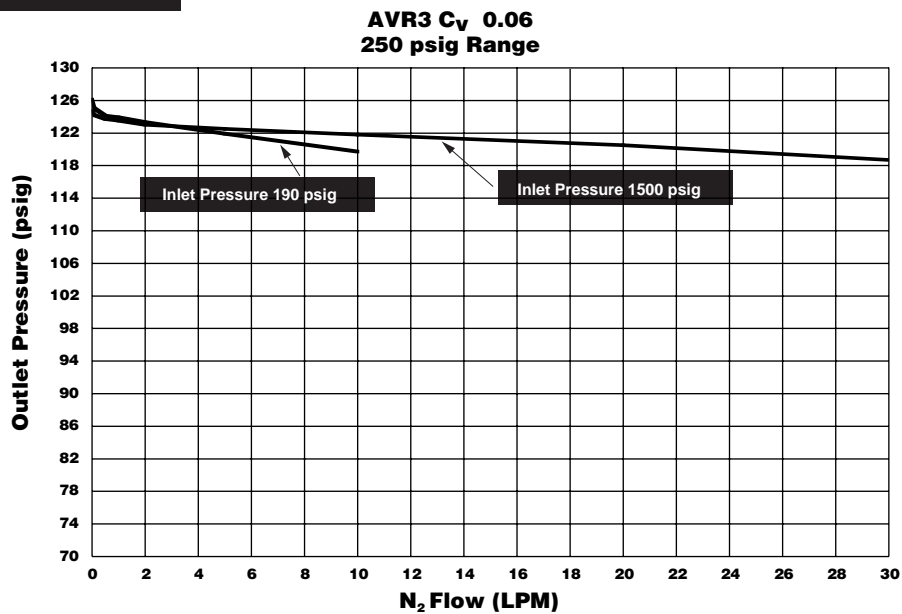
approximate weight

8 lbs (2.0 kgm)



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Flow Information



Seat Operating Parameters

Seat Material

PCTFE (formerly Kel-F 81®)

PEEK™

Vespel®

Temperature

150°F (66°C)

275°F (135°C)

500°F (260°C)

Inlet Pressure

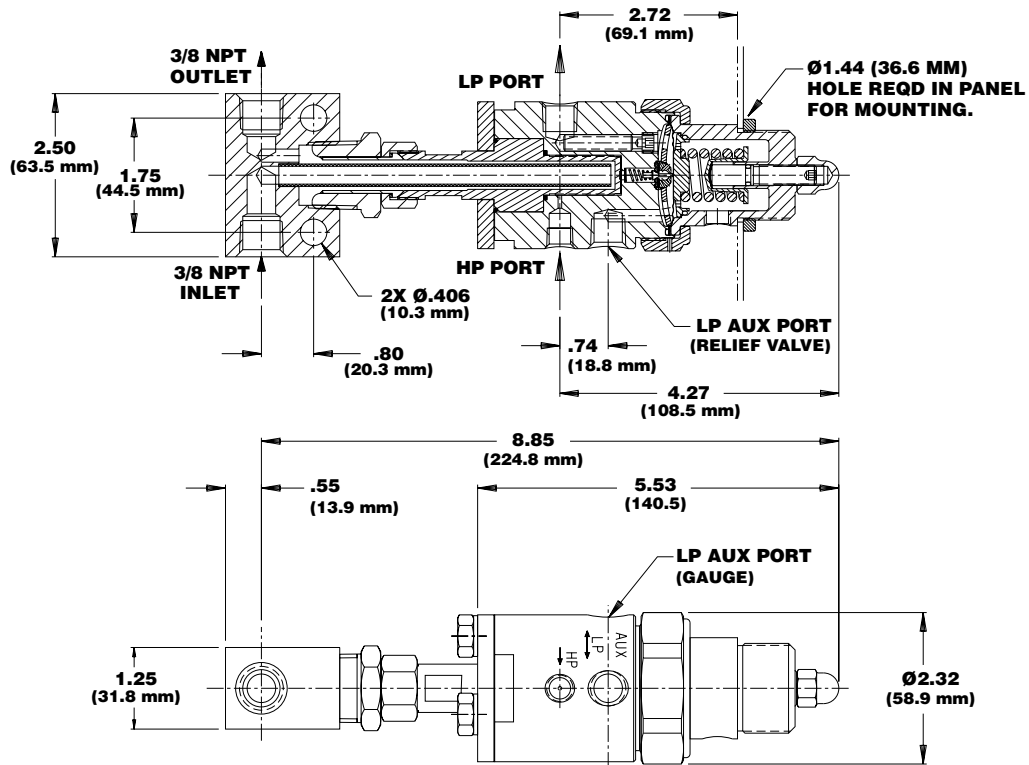
3500 psig (241 barg)

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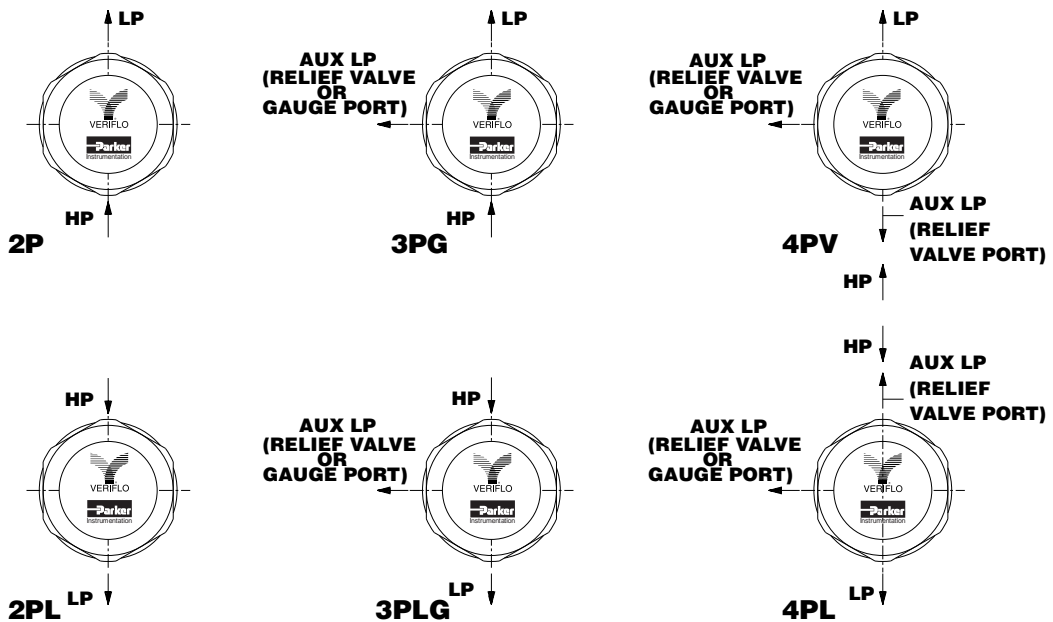
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Cross Sectional View and Installation Dimensions

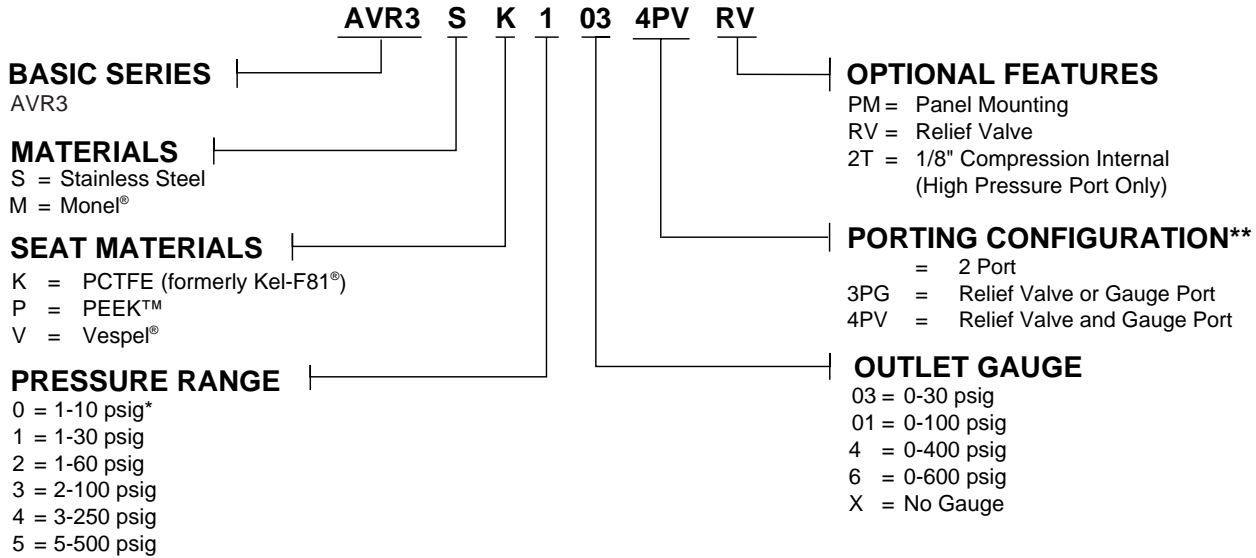


Porting Configurations



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Ordering Information



* Max inlet 250 psig

** See Porting Configurations on inside sheet for additional porting options

Note: 1/4" NPT Female on auxillary outlet ports.

High Pressure port: 1/8" NPT Female is standard

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