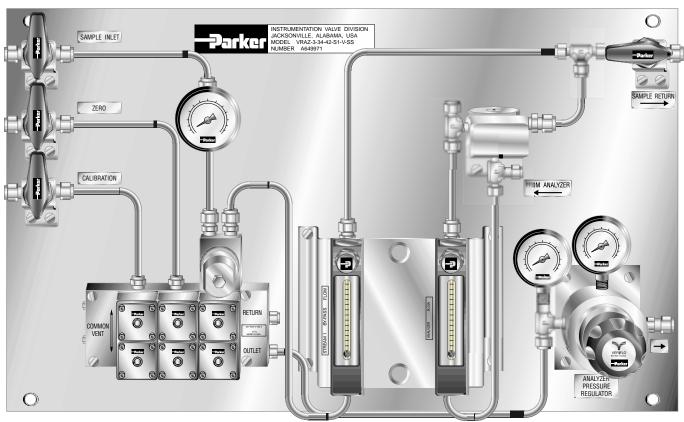


Bulletin 4141-VR November 2001



Model Shown: VRAZ3-01-22-DX-V-SS

### Unparalleled pressure and flow stability

The Parker Analyzer Pressure Regulation and Vent Recovery System automatically and continuously adjusts for variations in gas supply pressures and flows. This system has been engineered to meet the requirement of continuous analyzers designed to operate at constant pressure in order to provide accurate analyses of gases. The combination of pressure and flow regulation provides the required stability even with greatly varying inlet and outlet pressures.

#### **Features**

- Designed for a zero, a calibration, and up to two sample streams
- Capabilities

Stream switching

Sample filtering

Flow and pressure regulation

- Regulator controls analyzer pressure
- Metering valves control

Analyzer flow

Stream by-pass flow

· Flowmeters indicate stability of

Analyzer flow

Stream by-pass flow

Pressure gauges indicate

Sample inlet pressure

Pressure to the analyzer

Pressure from the filter

Utilizes Parker

*R-Max*<sup>™</sup> Stream Switching System

MB Series Ball Valves

HR Series Metering Valves

IR5000 Pressure Regulator

SC Flow Controller

Balston® Particulate Filtration

CPI™ Connectors

- 100% Factory Tested
- Patent Pending
- Custom Engineered Systems Available

## **Operating Conditions**

Pressure Rating:

200 psig (14 bar) maximum

Temperature Rating:

Media -40 °F to 200 °F (-40 °C to 93 °C) Ambient -40 °F to 140 °F (-40 °C to 60 °C)

#### **Functional Performance**

Pressure Ratings:

IR5000 Pressure Regulator

3500 psig (241 bar)

MB Series Ball Valve

3000 psig (207 bar)

R-Max™ Stream Switching System

500 psig (34 bar)

HR Series Metering Valve

250 psig (17 bar)

Flowmeter

200 psig (14 bar)

SC Flow Controller

150 psig (10 bar)

#### **Materials of Construction\***

#### Wetted

Wetted
<i>R-Max</i> <sup>™</sup> System
Base, Body and Stems 316 Stainless Steel
Upper and Lower Seats PCTFE
Seals Fluorocarbon Rubber
IR5000 Regulator
Body 316L Stainless Steel
Diaphragm Hastelloy C-22®
Compression Member Inconel®
PoppetElgiloy®
Poppet SpringInconel®
Carrier Stainless Steel
SeatPCTFE
Back-up O-ringFluorocarbon Rubber
Inlet Screen/Filter
MB Ball Valves
Body and Stem
Seat/PackingPerfluoroalkoxy (PFA)
, ,
HR Metering Valves
Cartridge Components 316 Stainless Steel
Orifice Liner Mica Filled PTFE
Stem SealsFluorocarbon Rubber
SC Controller
Body and Piston
Seat and SealsFluorocarbon Rubber
Diaphragm Hastelloy C-22®
Flowmeters
Body 316 Stainless Steel
Tube Borosilicate Glass
FloatGlass
Float StopsPTFE
Gauges
Body 316 Stainless Steel
Bourdon Tube 316 Stainless Steel
Fittings 316 Stainless Steel
Tubing316 Stainless Steel
Non-wetted
Panel
Brackets
Hardware Stainless Steel
Operating HandlesABS Plastic, Nylon 6/6
Gauge and Flowmeter Shields Polycarbonate
Cauge and I lowinister officials Folycalbollate
* Materials of construction for stainless steel systems.

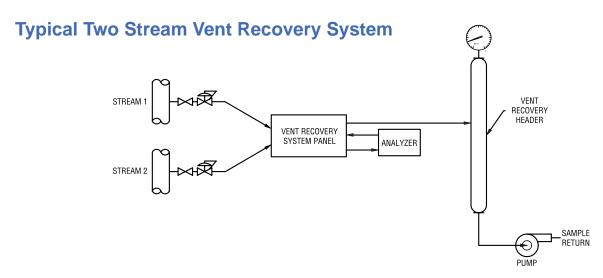
Materials of construction for stainless steel systems.

Consult factory for optional materials of construction.

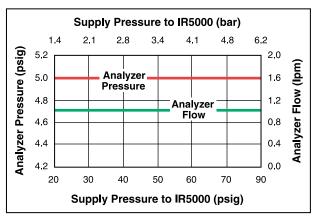
Hastelloy C-22 is a registered trademark of Haynes International, Inc. Inconel is a registered trademark of Inco Alloys International Elgiloy is a registered trademark of Elgiloy Company

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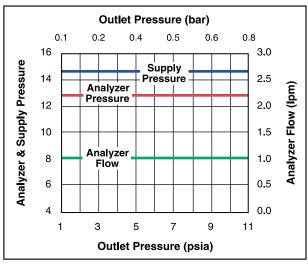


## Performance Example 1 - Varying Inlet Pressure with Constant Outlet Pressure



Analyzer Pressure set to 5 psig (0.3 bar); Supply Pressure varied from 20 to 90 psig (1.4 to 6.2 bar)

## Performance Example 2 - Varying Outlet Pressure with Constant Inlet Pressure



Analyzer Pressure set to 12.7 psia (0.87 bar); Supply Pressure set to 14.5 psia (1.01 bar); Outlet Pressure varied from 1 to 11 psia (0.07 to 0.76 bar)

### **Options**

By-pass Filter - Approximately 90% of the inlet flow by-passes the cartridge filter and exists the filter bowl. This provides three benefits: 1) It reduces the transport time of the sample stream from the process line to the analyzer; 2) Provides a continuous flushing action on the filter element; and, 3) The life of the filter element is greatly extended since only a small percentage of the flow is filtered - and only when the stream is selected for analysis.

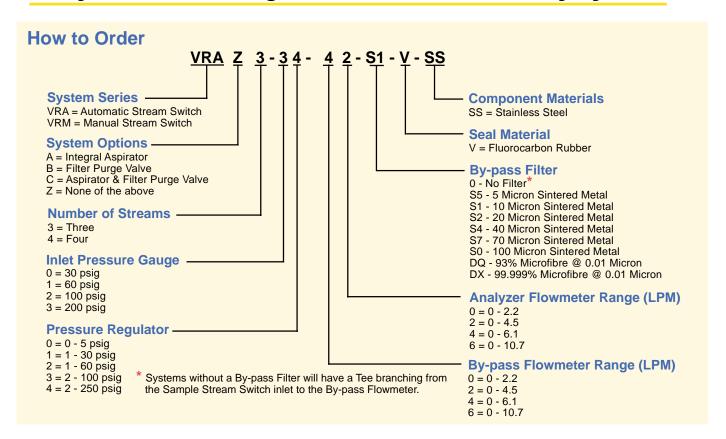
Manual Stream Switching - The *R-Max™* Stream Switching System is replaced with two-way and three-way MB Series manual Ball Valves. The optional By-pass Filter(s), if ordered, is mounted as a stand-alone unit downstream of the sample inlet MB Series manual Ball Valve(s).

Integral Aspirator - A Parker VC Vacuum Generator is added between the Flow Controller and MB Series Ball Valve on the Sample Return line. A Parker IR4000 Pressure Regulator is also added to control the vacuum generated.

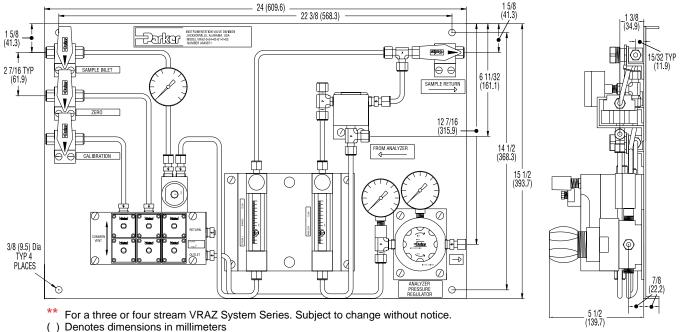
Filter Purge Valve - A three-way MB Series manual Ball Valve is placed upstream of the Filter to enable switching between sample and purge gas.

Aspirator and Filter Purge Valve - Adds both the Integral Aspirator and the Filter Purge components to the panel.





#### **Dimensions\*\***





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