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.
Analyzer Pressure Regulation and Vent Recovery System

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™ 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

Materials of Construction

Wetted

R-Max™ 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®
Poppet ...................................... Elgiloy®
Poppet Spring ............................. Inconel®
Carrier ...................................... Stainless Steel
Seat .......................................... PCTFE
Back-up O-ring .......................... Stainless Steel
Inlet Screen/Filter ...................... 316L Stainless Steel

MB Ball Valves
Body and Stem ......................... 316 Stainless Steel
Seat/Packing ............................. Perfluoroalkoxy (PFA)

HR Metering Valves
Cartridge Components .................. 316 Stainless Steel
Orifice Liner ............................... Mica Filled PTFE
Stem Seals .................................. Fluorocarbon Rubber

SC Controller
Body and Piston .......................... 316L Stainless Steel
Seat and Seals ............................ Fluorocarbon Rubber
Diaphragm ................................. Hastelloy C-22®

Flowmeters
Body ................................. 316 Stainless Steel
Tube ....................................... Borosilicate Glass
Float ........................................ Glass
Float Stops ............................... PTFE

Gauges
Body ....................................... 316 Stainless Steel
Bourdon Tube ............................. 316 Stainless Steel
Fittings ..................................... 316 Stainless Steel
Tubing ..................................... 316 Stainless Steel

Non-wetted

Panel ..................................... 304 Stainless Steel
Brackets ................................... 304 Stainless Steel
Hardware ................................. Stainless Steel
Operating Handles .................. ABS Plastic, Nylon 6/6
Gauge and Flowmeter Shields ......... Polycarbonate


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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Typical Two Stream Vent Recovery System

Performance Example 1 - Varying Inlet Pressure with Constant Outlet Pressure

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.
How to Order

**System Series**
VRA = Automatic Stream Switch
VRM = Manual Stream Switch

**System Options**
A = Integral Aspirator
B = Filter Purge Valve
C = Aspirator & Filter Purge Valve
Z = None of the above

**Number of Streams**
3 = Three
4 = Four

**Inlet Pressure Gauge**
0 = 30 psig
1 = 60 psig
2 = 100 psig
3 = 200 psig

**Pressure Regulator**
0 = 0 - 5 psig
1 = 1 - 30 psig
2 = 1 - 60 psig
3 = 2 - 100 psig
4 = 2 - 250 psig

* Systems without a By-pass Filter will have a Tee branching from the Sample Stream Switch inlet to the By-pass Flowmeter.

**Component Materials**
SS = Stainless Steel

**Seal Material**
V = Fluorocarbon Rubber

**By-pass Filter**
0 - No Filter*
S5 - 5 Micron Sintered Metal
S1 - 10 Micron Sintered Metal
S2 - 20 Micron Sintered Metal
S4 - 40 Micron Sintered Metal
S7 - 70 Micron Sintered Metal
S0 - 100 Micron Sintered Metal
DQ - 93% Microfibre @ 0.01 Micron
DX - 99.999% Microfibre @ 0.01 Micron

**Analyzer Flowmeter Range (LPM)**
0 = 0 - 2.2
2 = 0 - 4.5
4 = 0 - 6.1
6 = 0 - 10.7

**By-pass Flowmeter Range (LPM)**
0 = 0 - 2.2
2 = 0 - 4.5
4 = 0 - 6.1
6 = 0 - 10.7

**Dimensions**

**For a three or four stream VRAZ System Series. Subject to change without notice.**

( ) Denotes dimensions in millimeters

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