VP Series
High Purity, Gas Safe Delivery Panels

VP Series Gas Delivery Panels are manual, high pressure gas distribution systems designed to provide precise and safe delivery of high purity, corrosive, toxic and flammable gases. These panels are ideal for gases used in laboratory or process control where a high level of process purity is required. Each panel can be mounted in a stand alone configuration or in a gas cylinder cabinet which provides the extra safety of hazardous gas containment.

Panel components are selected, built and cleaned to maintain the highest level of purity for all gases utilized. The wetted surfaces are constructed of Type 316 Stainless Steel. The plumbing has been designed using low internal volumes with minimal dead legs to provide ease of purging and reduce contamination potential. Orbital welded joints are used to minimize the number of connections to ensure high purity. Components are installed using compression or pipe thread connections to facilitate replacement if necessary. The stainless steel back-plate has predrilled mounting holes and is silkscreen labeled with component names and identifiers to aid in the operation of the controls.

Five standard panel configurations (see page 75) have been designed to provide versatility to fit most any application requirement. Specially designed panel configurations can be engineered to meet customer provided specifications.

Specifications

| Maximum Inlet Pressure: See Part Number Key |
| Delivery Pressure Range: See Part Number Key |
| Delivery Pressure Gauge: 30 psig range: | -30” Hg–0–60 psig / -1–0–4 bar |
| 75 psig range: | -30” Hg–0–100 psig / -1–0–7 bar |
| 150 psig range: | -30” Hg–0–200 psig / -1–0–14 bar |
| 300 psig range: | 0–400 psig / 0–27 bar |
| 500 psig range: | 0–600 psig / 0–34 bar |

Gauge Size: 2” Dial

Operating Temperature Range: -40°F to 140°F

Flow Coefficient:
Regulator: Cv = 0.06
Diaphragm Valve: Cv = 0.17

Inlet Connection: CGA 296, 320, 326, 330, 346, 350, 510, 540, 580, 590, 660 or 705 as ordered.

Outlet Connections: ¼” compression

Rigid Pigtails: 36” long, ¼” OD tubing with 5” ID service loop, providing a 23” usable length

Flexible Hose (all metal): 36” long, ¼” nominal ID, 0.445” nominal OD

Panel Dimensions: 12” x 14¼” x ½” (11 gauge)

Materials of Construction

Regulator and Valve(s):
- Type 316 Stainless Steel Bar Stock

Regulator Bonnet:
- 300 Series Stainless Steel

Other Metal Parts Exposed to Gas:
- Type 316 Stainless Steel

Seats: PCTFE

Diaphragms: Type 316 Stainless Steel

Seals: PTFE and Viton®

Pigtails:
- Rigid: Type 316L Stainless Steel
- Flexible Hose: Type 316L SS inner core with Type 304 SS double overbraid and Type 316L SS end fittings

Panel: Brushed Type 304 Stainless Steel

Part Number Key for VP Series Panels

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Maximum Inlet Pressure</th>
<th>Cylinder Leads (Pigtails)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VP X X-XXX</td>
<td>3 = 3000 psig</td>
<td>Flexible Hose = F</td>
</tr>
<tr>
<td></td>
<td>2 = 800 psig</td>
<td>Rigid Tubing = R</td>
</tr>
<tr>
<td></td>
<td>1 = 300 psig</td>
<td></td>
</tr>
</tbody>
</table>

Number of Valves on Panel (1 to 5)

Delivery Pressure Range

30X = 30 psig
75X = 75 psig
150 = 150 psig
300 = 300 psig
500 = 500 psig

CGA Connection Number

Ordering Information

To order a VP Series Gas Delivery Panel, complete the part number using the Part Number Key above. For example, to order a 5 valve panel with a regulator having a 3000 psig maximum inlet pressure, 75 psig maximum outlet range, and flexible hose with CGA 330 connection, the part number would be VPS–3–75X–F–330. Order by complete part number.
The one valve panel features a pressure regulator, an on/off process valve (V1) and a pipe away relief valve (RV) providing protection from excess pressure. This panel is designed to control purge or non-corrosive process gases.

The two valve panel has the same components as the one valve panel with the addition of a high pressure inlet isolation valve (V2). The two valves allow total isolation of the pressure regulator. This panel is designed for use with non-corrosive gases for processes that do not require purge capability.

The three valve panel incorporates all of the same features of the two valve panel with the addition of a low pressure vent valve (V3). The vent valve is connected to a pipe away vent line protected from back flow by a check valve (C1). The vent valve allows for purging of contaminants that may be introduced during cylinder change-out. This panel is designed for use with non-corrosive gases for processes that require purge capability.

In addition to including the same components as the three valve panel, a high pressure vent valve (V4) is added to this panel. This feature utilizes the high pressure process gas to enhance purging after cylinder change-out. This panel is designed for use with non-corrosive gases for processes that require the extra purity obtained with high pressure purging.

The five valve panel has the same components as the four valve panel with the addition of a purge valve (V5) which connects to a regulated purge gas source. This allows the operator to flush the system with the purge gas to remove atmospheric contamination prior to start-up, before disconnecting an empty cylinder and after a cylinder change. A check valve (C2) prevents back flow of gas into the purge line should the purge valve be inadvertently left open. This panel is recommended when using toxic, corrosive and flammable gases.