SAFETY WARNING:
GO Regulator products are designed for installation only by professional suitably qualified licensed system installers experienced in the applications and environments for which the products are intended. These products are intended for integration into a system. Where these products are to be used with flammable or hazardous media, precautions must be taken by the system designer and installer to ensure the safety of persons and property. Flammable or hazardous media pose risks associated with fire or explosion, as well as burning, poisoning or other injury or death to persons and/or destruction of property. The system designer and installer must provide for the capture and control of such substances from any vents in the product(s). The system installer must not permit any leakage or uncontrolled escape of hazardous or flammable substances. The system operator must be trained to follow appropriate precautions and must inspect and maintain the system and its components including the product(s) and at regular intervals in accordance with timescales recommended by the supplier to prevent unacceptable wear or failure.

For Your Safety
It is solely the responsibility of the system designer and user to select products suitable for their specific application requirements and to ensure proper installation, operation, and maintenance of these products. When selecting products, the total system design must be considered to ensure safe, trouble-free performance. Material compatibility, product ratings and application details should be considered in the selection. Improper selection or use of products described herein can cause personal injury or property damage.

Contact your authorized GO Regulator sales and service representative for information about additional sizes and special alloys.
**HPR-2 Series**
Steam Heated Regulators

**Introduction**

The HPR-2 Series heated pressure regulator is designed to supply heat to samples entering instrumentation systems. It can be used to preheat liquids, to prevent condensation of gases or to vaporize liquids prior to gas analysis.

The modular design of the HPR-2 consists of heat exchanger and pressure control sections. The pressure control section is patterned after the time-proven design of the PR-1 pressure reducing regulator and provides the same excellent outlet pressure stability. The heat exchanger section is made up of a body and heat exchange element. The heat exchange element uses GO Regulator's unique spiral-wrapped screen as the heat exchanger surface. This screen has up to 100 square inches of heat transfer area and precise design forces all sample flow to pass through the element.

**Technical Data**

<table>
<thead>
<tr>
<th><strong>CONSTRUCTION</strong></th>
<th>316L stainless steel</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OUTLET PRESSURES</strong></td>
<td>0–10, 0–25, 0–50, 0–100, 0–250, 0–500, 0–750 and 0–1000 psig</td>
</tr>
<tr>
<td><strong>INLET PRESSURE</strong></td>
<td>up to 6000 psig at 380° F (193° C)</td>
</tr>
<tr>
<td><strong>OPERATING TEMPERATURE</strong></td>
<td>up to 500° F (260° C)</td>
</tr>
<tr>
<td><strong>Cₜ COEFFICIENTS</strong></td>
<td>0.06, 0.025, 0.2</td>
</tr>
<tr>
<td><strong>INLET CONNECTIONS</strong></td>
<td>1⁄8˝ FNPT</td>
</tr>
<tr>
<td><strong>OUTLET CONNECTIONS</strong></td>
<td>¼˝ FNPT</td>
</tr>
</tbody>
</table>

**Features & Benefits**

- Optional HASTELLOY® C and MONEL®
- Electropolished body with better than 25 Ra finish in diaphragm cavity for an optimal sealing surface
- Bubble-tight shutoff
- Modular pressure control and heat exchanger assemblies allow for easy maintenance.
- Unique spiral-wrapped heat exchange element provides up to 100 square inches of heat transfer area.
- INCONEL® diaphragm standard.

**Typical Applications**

Analytical process sample conditioning systems:
- Petrochemical refineries
- Chemical production facilities
- Pilot plants (chemical & petrochemical)
- LNG loading and off-loading points
- Natural gas pipeline sampling
HPR-2 Series
How to Order

Standard items in bold

BODY MATERIAL
1 316L stainless steel, stainless steel diaphragm
C 316L stainless steel, INCONEL® diaphragm
4 MONEL®, INCONEL® diaphragm
6 HASTELLOY® C, INCONEL® diaphragm

PORT CONFIGURATION
Z One inlet port, one outlet port
For more configurations, see pages 38-45

TEMPERATURE RANGE / HEATING TYPE
5 Steam

HEATER WATTAGE
5 Steam

SEAT MATERIAL
A Tefzel®
B Ceramic Filled PTFE
H PCTFE
Q PEEK™

FLOW COEFFICIENT (Cv)
3 0.06
5 0.2
C 0.025

OPTIONS (NOT REQUIRED)
B EB5 cleaning
D Helium leak test
E Pressure test certificate
F Certificate of Conformity
G CMTR

OPTIONS
4 6000 psig inlet steam heated (1-pc assembly)
0 Other options

CAP ASSEMBLY
1 Tamper-proof, standard, stainless steel
4 Tamper-proof, panel, mount, stainless steel
7 Tamper-proof, captured vent, stainless steel
J Tamper-proof, capture vent, panel mount, stainless steel
L BP-6 topworks

HEATER BLOCK PORTING
1 Standard block
2 Extra outlet block
For more blocks, see pages 36-37

HEATER BLOCK TYPE
1 Steam

OUTLET RANGE
C 0–10 psig
D 0–25 psig
E 0–50 psig
G 0–100 psig
I 0–250 psig
J 0–500 psig
W 0–750 psig
K 0–1000 psig (BP-6 topworks)

NOTE: Contact the factory for any additional requirements.

Maximum Temperature & Operating Inlet Pressures

HPR-2 Steam 2-piece Assembly
(Heater block and regulator body separate)

<table>
<thead>
<tr>
<th>SEAT MATERIAL</th>
<th>MAXIMUM TEMPERATURE</th>
<th>MAXIMUM OPERATING INLET PRESSURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ceramic Filled PTFE, Tefzel®, &amp; PCTFE</td>
<td>Up to 380° F (193° C)</td>
<td>400 psig (2.76 MPa)</td>
</tr>
<tr>
<td>PEEK™</td>
<td>Up to 500° F (260° C)</td>
<td>3600 psig (24.82 MPa)</td>
</tr>
</tbody>
</table>

HPR-2 Steam 1-piece Assembly
(Integral heater block and regulator)

<table>
<thead>
<tr>
<th>SEAT MATERIAL</th>
<th>MAXIMUM TEMPERATURE</th>
<th>MAXIMUM OPERATING INLET PRESSURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ceramic Filled PTFE, Tefzel®, &amp; PCTFE</td>
<td>Up to 380° F (193° C)</td>
<td>400 psig (2.76 MPa)</td>
</tr>
<tr>
<td>PEEK™</td>
<td>Up to 380° F (193° C)</td>
<td>6000 psig (41.37 MPa)</td>
</tr>
</tbody>
</table>

Outline & Mounting Dimensions

Panel Mount Option requires Ø 1.390" (35.3mm) minimum diameter panel cut-out
Weight: 4.0 lbs (1.81 kg)
**HPR-2 Series**  
Electrically Heated Regulators

**Introduction**
The HPR-2 Series heated pressure regulator is designed to supply heat to samples entering instrumentation systems. It can be used to preheat liquids, to prevent condensation of gases or to vaporize liquids prior to gas analysis.

The modular design of the HPR-2 consists of heat exchanger and pressure control sections. The pressure control section is patterned after the time proven design of the PR-1 pressure reducing regulator and provides the same excellent outlet pressure stability. The heat exchanger section is made up of a body and heat exchange element. The heat exchange element uses GO Regulator’s unique spiral wrapped screen as the heat exchange surface. This screen has up to 100 square inches of heat transfer area and precise design forces all sample flow to pass through the element.

The HPR-2 Series of vaporizing pressure reducing regulators are both CSA and ATEX approved. The electrical components of this unit are securely housed in a Class A, B, C, D conduit assuring that there is always an adequate flame path between the environment and the controller. Safety considerations can be further enhanced by using the optional TCO (Thermal Cut Out) heater cartridge. This feature enables the unit to boast a T3 rating with up to 250 watts of power (250w is rated T2C for CSA).

**Typical Applications**
**Analytical process sample conditioning systems:**
- Petrochemical refineries
- Chemical production facilities
- Pilot plants (chemical & petrochemical)
- LNG loading and off-loading points
- Natural gas pipeline sampling

**Technical Data**

<table>
<thead>
<tr>
<th><strong>CONSTRUCTION</strong></th>
<th>316L stainless steel</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OUTLET PRESSURES</strong></td>
<td>0–10, 0–25, 0–50, 0–100, 0–250, 0–500, 0–750 and 0–1000 psig</td>
</tr>
<tr>
<td><strong>INLET PRESSURE</strong></td>
<td>up to 6000 psig at 380° F (193° C)</td>
</tr>
<tr>
<td><strong>HEATING CAPACITY</strong></td>
<td>50, 100, 150, 200 and 250</td>
</tr>
<tr>
<td><strong>CV COEFFICIENTS</strong></td>
<td>0.06, 0.025, 0.2</td>
</tr>
</tbody>
</table>
| **CERTIFICATIONS**     | CSA certification # LR-82566-5  
ATEX Directive 2014/34/EU  
Certification # TRL03ATEX11001X |

**Features & Benefits**
- Optional HASTELLOY® C and MONEL®
- Electropolished body with better than 25 Ra finish in diaphragm cavity for an optimal sealing surface
- Bubble-tight shutoff
- Modular pressure control and heat exchanger assemblies for easy maintenance
- Unique spiral wrapped heat exchange element provides up to 100 square inches of heat transfer area
- Available in 120VAC or 230VAC
- Optional TCO heating cartridge
- INCONEL™ diaphragm standard
HPR-2 Series

How to Order

Standard items in bold

**BODY MATERIAL**
1  316L stainless steel, stainless steel diaphragm
2  316L stainless steel, INCONEL® diaphragm
3  MONEL®, INCONEL® diaphragm
4  HASTELLOY® C, INCONEL® diaphragm

**PORT CONFIGURATION**
Z  One inlet port, one outlet port

For more configurations, see pages 38-45

**TEMPERATURE RANGE / HEATING TYPE**
1  55°-85°F (13-29°C)
2  75°-175°F (24-80°C)
3  130°-300°F (54-149°C)
4  260°-380°F (126-194°C)
8  No electronics

**HEATER WATTAGE**
1  40W
2  50W
3  100W
4  150W
8  200W
9  250W (T2C/230°C for CSA)
6  No electronics

**SEAT MATERIAL**
A  Tefzel®
B  Ceramic
C  PTFE
H  PCTFE
Q  PEEK™

**FLOW COEFFICIENT (Cv)**
3  0.06
5  0.2
C  0.025

**OPTIONS (NOT REQUIRED)**
B  EB5 cleaning
D  Helium leak test
E  Pressure test certificate
F  Certificate of Conformity
G  CMTR

**OPTIONS**
1  TCO thermistor
5  6000 psig inlet w/TCO thermistor (1-pc assy.)
7  6000 psig inlet w/standard thermistor (1-pc assy.)
0  Other options

**CAP ASSEMBLY**
1  Tamper-proof, standard, stainless steel
4  Tamper-proof, panel, mount, stainless steel
7  Tamper-proof, captured vent, stainless steel
J  Tamper-proof, captured vent, panel mount, stainless steel
L  BP-6 topworks

**HEATER BLOCK PORTING**
1  Standard block
2  Extra outlet block

For more blocks, see pages 36-37

**HEATER BLOCK TYPE**
3  120 VAC
4  230 VAC
5  No electronics

**OUTLET RANGE**
C  0–10 psig
D  0–25 psig
E  0–50 psig
G  0–100 psig
I  0–250 psig
J  0–500 psig
W  0–750 psig
K  0–1000 psig (BP-6 topworks)

**NOTE:**
1. Contact the factory for any additional requirements.
2. Units that will be used for flammable liquid or gas with fire point at 200°C or below require the TCO Thermistor. It is also recommended to use the 1-PC body option. In addition, Tefzel and PCTFE seats in these units are recommended to use the captured vent cap option which provides for venting to a safe location.

Maximum Temperature & Operating Inlet Pressures

**HPR-2 Electric 2-piece Assembly**
(Heater block and regulator body separate)

<table>
<thead>
<tr>
<th>SEAT MATERIAL</th>
<th>MAXIMUM TEMPERATURE</th>
<th>MAXIMUM OPERATING INLET PRESSURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tefzel®</td>
<td>Up to 175° F (80°C)</td>
<td>3600 psig (24.82 MPa)</td>
</tr>
<tr>
<td>Ceramic Filled PTFE</td>
<td>176° F to 300° F (80° C to 148° C)</td>
<td>1000 psig (6.90 MPa)</td>
</tr>
<tr>
<td>&amp; PCTFE</td>
<td>301° F to 380° F (148° C to 193° C)</td>
<td>400 psig (2.76 MPa)</td>
</tr>
<tr>
<td>PEEK™</td>
<td>Up to 380° F (193° C)</td>
<td>3600 psig (24.82 MPa)</td>
</tr>
</tbody>
</table>

**HPR-2 Electric 1-piece Assembly**
(Integral heater block and regulator)

<table>
<thead>
<tr>
<th>SEAT MATERIAL</th>
<th>MAXIMUM TEMPERATURE</th>
<th>MAXIMUM OPERATING INLET PRESSURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tefzel® &amp; Ceramic Filled PTFE</td>
<td>Up to 175° F (80°C)</td>
<td>3600 psig (24.82 MPa)</td>
</tr>
<tr>
<td></td>
<td>176° F to 300° F (80° C to 148° C)</td>
<td>1000 psig (6.90 MPa)</td>
</tr>
<tr>
<td></td>
<td>301° F to 380° F (148° C to 193° C)</td>
<td>400 psig (2.76 MPa)</td>
</tr>
<tr>
<td>PCTFE</td>
<td>Up to 175° F (80°C)</td>
<td>6000 psig (41.37 MPa)</td>
</tr>
<tr>
<td>&amp; Ceramic Filled PTFE</td>
<td>176° F to 300° F (80° C to 148° C)</td>
<td>1000 psig (6.90 MPa)</td>
</tr>
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<td>&amp; PCTFE</td>
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<td>PEEK™</td>
<td>Up to 380° F (193° C)</td>
<td>6000 psig (41.37 MPa)</td>
</tr>
</tbody>
</table>

To Order, contact your local Distributor Link below:
[www.goreg.com/distributor/index.htm](http://www.goreg.com/distributor/index.htm)
Verify that your chosen part number is valid using the GO Wizards at
HPR-2 Series
Outline & Mounting Dimensions

Panel mount option requires 1.390" (35.3mm) minimum diameter panel cut out

Weight 8.7 lbs (3.95 kg)
**Introduction**

The HPR-2XW Series heated pressure regulator is designed to supply heat to samples entering instrumentation systems. It can be used to preheat liquids, to prevent condensation of gases or to vaporize liquids prior to gas analysis.

The modular design of the HPR-2XW consists of heat exchanger and pressure control sections. The pressure control section is patterned after the time proven design of the PR-1 pressure reducing regulator and provides the same excellent outlet pressure stability. The heat exchanger section is made up of a body and heat exchange element. The heat exchange element uses GO Regulator’s unique spiral wrapped screen as the heat exchange surface. This screen has up to 100 square inches of heat transfer area and precise design forces all sample flow to pass through the element.

Completing this modular design is the incorporation of a removable heat exchange unit. This allows the user to remove and clean or replace the exchanger. This is especially useful when heating dirty liquids or liquids that polymerize and clog the heat exchange screen.

**Typical Applications**

- Analytical process sample conditioning systems:
  - Petrochemical refineries
  - Chemical production facilities
  - Pilot plants (chemical & petrochemical)
  - LNG loading and off-loading points
  - Natural gas pipeline sampling

**Technical Data**

<table>
<thead>
<tr>
<th>CONSTRUCTION</th>
<th>316L stainless steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>OUTLET PRESSURES</td>
<td>0–10, 0–25, 0–50, 0–100, 0–250, 0–500, 0–750 and 0–1000 psig</td>
</tr>
<tr>
<td>INLET PRESSURE</td>
<td>up to 6000 psig at 380° F (193° C)</td>
</tr>
<tr>
<td>OPERATING TEMPERATURE</td>
<td>up to 500° F (260° C)</td>
</tr>
<tr>
<td>Cₗ COEFFICIENTS</td>
<td>0.06, 0.025, 0.2</td>
</tr>
<tr>
<td>INLET CONNECTIONS</td>
<td>⅛” FNPT</td>
</tr>
<tr>
<td>OUTLET CONNECTIONS</td>
<td>¼” FNPT</td>
</tr>
</tbody>
</table>

**Features & Benefits**

- Optional HASTELLOY® C and MONEL®
- Electropolished body with better than 25 Ra finish in diaphragm cavity for an optimal sealing surface
- Bubble-tight shutoff
- Modular pressure control and heat exchanger assemblies for easy maintenance
- Unique spiral wrapped heat exchange element provides up to 100 square inches of heat transfer area.
- INCONEL® diaphragm standard.

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**Product Header**

**Product Subhead**

**Pressure regulators**

**HPR-2XW Series**

Steam Heated Pressure Regulator
HPR-2XW Series

How to Order

Standard items in bold

<table>
<thead>
<tr>
<th>BODY MATERIAL</th>
<th>HEATER WATTAGE</th>
<th>SEAT MATERIAL</th>
<th>FLOW COEFFICIENT (Cv)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 316L stainless steel, stainless steel diaphragm</td>
<td>5 Steam</td>
<td>A Tefzel®</td>
<td>3 0.06</td>
</tr>
<tr>
<td>C 316L stainless steel, INCONEL® diaphragm</td>
<td></td>
<td>B Ceramic Filled PTFE &amp; PCTFE</td>
<td>5 0.2</td>
</tr>
<tr>
<td>4 MONEL®, INCONEL® diaphragm</td>
<td></td>
<td>Q PEEK™</td>
<td>C 0.025</td>
</tr>
<tr>
<td>6 HASTELLOY®C, INCONEL® diaphragm</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PORT CONFIGURATION
Z Standard
For more configurations, see pages 38-45

TEMPERATURE RANGE / HEATING TYPE
5 Steam

HEATER BLOCK TYPE
2 Steam, HPR-2XW

OUTLET RANGE
C 0–10 psig
D 0–25 psig
E 0–50 psig
G 0–100 psig
I 0–250 psig
J 0–500 psig
W 0–750 psig
K 0–1000 psig (BP-6 topworks)

NOTE: Contact the factory for any additional requirements.

To Order, contact your local Distributor Link below:
www.goreg.com/distributor/index.htm
Verify that your chosen part number is valid using the GO Wizards at
www.goreg.com/products/matrix/index.htm

Maximum Temperature & Operating Inlet Pressures

HPR-2XW Steam 2-piece Assembly
(Heater block and regulator body separate)

<table>
<thead>
<tr>
<th>SEAT MATERIAL</th>
<th>MAXIMUM TEMPERATURE</th>
<th>@</th>
<th>MAXIMUM OPERATING INLET PRESSURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tefzel®. Ceramic Filled PTFE &amp; PCTFE</td>
<td>Up to 380° F (193° C)</td>
<td>@</td>
<td>400 psig (2.76 MPa)</td>
</tr>
<tr>
<td>PEEK™</td>
<td>Up to 500° F (260° C)</td>
<td>@</td>
<td>3600 psig (24.82 MPa)</td>
</tr>
</tbody>
</table>

HPR-2XW Steam 1-piece Assembly
(Integral heater block and regulator)

<table>
<thead>
<tr>
<th>SEAT MATERIAL</th>
<th>MAXIMUM TEMPERATURE</th>
<th>@</th>
<th>MAXIMUM OPERATING INLET PRESSURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tefzel®. Ceramic Filled PTFE &amp; PCTFE</td>
<td>Up to 380° F (193° C)</td>
<td>@</td>
<td>400 psig (2.76 MPa)</td>
</tr>
<tr>
<td>PEEK™</td>
<td>Up to 380° F (193° C)</td>
<td>@</td>
<td>6000 psig (41.37 MPa)</td>
</tr>
</tbody>
</table>

NOTE: Contact the factory for any additional requirements.
HPR-2XW Series
Outline & Mounting Dimensions

- Standard
  - 5.67" (144mm)
  - 1.00" (25.4mm)
  - Steamb 1/2" O.D. x 0.049" Wall
  - 1/4" FNPT Outlet
  - 1/8" FNPT Inlet
  - .75" (19mm) Typ.
  - 10-32UNF x 0.25 Min Full Thds (2x)
  - Panel mount option requires 1.390" (35.3mm) minimum diameter panel cut out
  - Weight: 4.0lbs (1.81kg)
  - 0.50" (12.7mm)

- Weight: 4.0lbs (1.81kg)
HPR-2XW Series
Electrically Heated Pressure Regulator

Introduction

The HPR-2XW Series heated pressure regulator is designed to supply heat to samples entering instrumentation systems. It can be used to preheat liquids, to prevent condensation of gases or to vaporize liquids prior to gas analysis.

The modular design of the HPR-2XW consists of heat exchanger and pressure control sections. The pressure control section is patterned after the time-proven design of the PR-1 pressure reducing regulator and provides the same excellent outlet pressure stability. The heat exchanger section is made up of a body and heat exchange element. The heat exchange element uses GO Regulator’s unique spiral wrapped screen as the heat exchanger surface. This screen has up to 100 square inches of heat transfer area and precise design forces all sample flow to pass through the element. Completing this modular design is the incorporation of a removable heat exchanger unit. This allows the user to remove and clean, or replace the exchanger. This is especially useful when heating dirty liquids or liquids that polymerize and clog the heat exchange screen.

The HPR-2 Series of vaporizing pressure reducing regulators are both CSA and ATEX approved. The electrical components of this unit are securely housed in a Class A,B,C,D conduit assuring that there is always an adequate flame path between the environment and the controller. Safety considerations can be further enhanced by using the optional TCO (Thermal Cut Out) heater cartridge. This feature enables the unit to boast a T3 rating with up to 250 watts of power. (CSA T2D rating for 250W).

Typical Applications

Analytical process sample conditioning systems:
- Petrochemical refineries
- Chemical production facilities
- Pilot plants (chemical & petrochemical)
- LNG loading and off-loading points
- Natural gas pipeline sampling

Technical Data

<table>
<thead>
<tr>
<th>Construction</th>
<th>316L stainless steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outlet Pressures</td>
<td>0–10, 0–25, 0–50, 0–100, 0–250, 0–500, 0–750, and 0–1000 psig</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>up to 380° F (193° C)</td>
</tr>
<tr>
<td>Heating Capacity Ranges (in Watts)</td>
<td>40, 50, 100, 150, 200, and 250</td>
</tr>
<tr>
<td>Cv Coefficients</td>
<td>0.06, 0.025, 0.2</td>
</tr>
<tr>
<td>Certifications</td>
<td>CSA certification # LR-82566-5, ATEX Directive 2014/34/EU, Certification # TRL03ATEX11001X</td>
</tr>
</tbody>
</table>

Features & Benefits

- Optional HASTELLOY® C-276 & MONEL®
- Electropolished body with better than 25 Ra finish in diaphragm cavity for an optimal sealing surface
- Bubble-tight shutoff
- Modular pressure control and heat exchanger assemblies for easy maintenance
- Unique spiral wrapped heat exchange element provides up to 100 square inches of heat transfer area.
- Available in 120VAC or 230VAC
- Optional TCO for T3 operation
- INCONEL® diaphragm standard
HPR-2XW Series

How to Order

H2 – Z 2 3 Q 3 E 6 1 1 7

OPTIONS (NOT REQUIRED)

B EB5 cleaning
D Helium leak test
E Pressure test certificate
F Certificate of Conformity
G CMTR

OPTIONS

1 TCO thermistor
5 6000 psig inlet w/TCO thermistor (1-pc assy.)
4 6000 psig inlet w/standard thermistor (1-pc assy.)
0 Other options

CAP ASSEMBLY

1 Tamper-proof, standard, stainless steel
4 Tamper-proof, panel mount, stainless steel
7 Tamper-proof, captured vent, stainless steel
J Tamper-proof, captured vent, panel mount, stainless steel
L BP-6 topworks

HEATER BLOCK PORTING

1 Standard block
2 Extra outlet block
For more blocks, see pages 36-37

HEATER BLOCK TYPE

6 120 VAC, HPR-2XW
7 230 VAC, HPR-2XW

OUTLET RANGE

C 0–10 psig
D 0–25 psig
E 0–50 psig
G 0–100 psig
I 0–250 psig
J 0–500 psig
W 0–750 psig
K 0–1000 psig (BP-6 topworks)

Maximum Temperature & Operating Inlet Pressures

HPR-2XW Electric 2-piece Assembly
(Heater block and regulator body separate)

<table>
<thead>
<tr>
<th>SEAT MATERIAL</th>
<th>MAXIMUM TEMPERATURE</th>
<th>MAXIMUM OPERATING INLET PRESSURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tefzel®</td>
<td>Up to 175° F (80° C)</td>
<td>@ 3600 psig (24.82 MPa)</td>
</tr>
<tr>
<td>Ceramic Filled PTFE &amp; PCTFE</td>
<td>176° F to 300° F (80° C to 148° C)</td>
<td>@ 1000 psig (6.90 MPa)</td>
</tr>
<tr>
<td>PCTFE</td>
<td>Up to 380° F (193° C)</td>
<td>@ 400 psig (2.76 MPa)</td>
</tr>
<tr>
<td>PEEK™</td>
<td>Up to 380° F (193° C)</td>
<td>@ 3600 psig (24.82 MPa)</td>
</tr>
</tbody>
</table>

HPR-2XW Electric 1-piece Assembly
(Integral heater block and regulator)

<table>
<thead>
<tr>
<th>SEAT MATERIAL</th>
<th>MAXIMUM TEMPERATURE</th>
<th>MAXIMUM OPERATING INLET PRESSURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tefzel®</td>
<td>Up to 175° F (80° C)</td>
<td>@ 3600 psig (24.82 MPa)</td>
</tr>
<tr>
<td>Ceramic Filled PTFE</td>
<td>176° F to 300° F (80° C to 148° C)</td>
<td>@ 1000 psig (6.90 MPa)</td>
</tr>
<tr>
<td>PCTFE</td>
<td>Up to 175° F (80° C)</td>
<td>@ 6000 psig (41.37 MPa)</td>
</tr>
<tr>
<td>PEEK™</td>
<td>Up to 380° F (193° C)</td>
<td>@ 6000 psig (41.37 MPa)</td>
</tr>
</tbody>
</table>
HPR-2XW Series

Maximum Temperature & Operating Inlet Pressures

Panel mount option requires 1.390" (35.3mm) minimum diameter panel cut out

Weight 8.7 lbs (3.95 kg)
CV2 Series Cylinder Vaporizer

Electrically Heated Two-stage Pressure Regulators

Introduction

The Cylinder Vaporizer electrically heated pressure regulator is designed to supply heat to samples entering instrumentation systems. It can be used to preheat liquids, to prevent condensation of gases or to vaporize liquids prior to gas analysis.

The design of the CV2 Series consists of heat exchanger and pressure control sections. The pressure control sections are patterned after the time-proven design of the CYL-20 Two-Stage Pressure Reducing Regulator and provides the same excellent outlet pressure stability. The heat exchange element uses GO Regulator’s unique spiral wrapped screen as the heat exchange surface. This screen has up to 100 square inches of heat transfer area and precise design forces all sample flow to pass through the element.

The Cylinder Vaporizer Series of vaporizing pressure reducing regulators are ATEX and CSA approved. The electrical components of this unit are securely housed in a Class A, B, C, D conduit assuring that there is always an adequate flame path between the environment and the controller. Safety considerations can be further enhanced by using the optional TCO (Thermal Cut Out) heater cartridge. This feature enables the unit to boast a T3 rating with up to 250 watts of power. (CSA T2D rating for 250W)

Typical Applications

Analytical process sample conditioning systems:
• Petrochemical refineries
• Chemical production facilities
• Pilot plants (chemical & petrochemical)
• LNG loading and off-loading points
• Natural gas pipeline sampling

Technical Data

<table>
<thead>
<tr>
<th>Construction</th>
<th>316L stainless steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outlet Pressures</td>
<td>0–10, 0–25, 0–50, 0–100, 0–250, and 0–500 psig</td>
</tr>
<tr>
<td>Inlet Pressure</td>
<td>up to 6000 psig @ 380°F (193° C)</td>
</tr>
<tr>
<td>Heating Capacity Ranges (in Watts)</td>
<td>40, 50, 100, 150, 200, and 250</td>
</tr>
<tr>
<td>Cv Coefficients</td>
<td>0.06, 0.025, 0.2</td>
</tr>
<tr>
<td>Certifications</td>
<td>CSA certification # LR-82566-5, ATEX Directive 2014/34/EU Certification # TRL03ATEX11001X</td>
</tr>
</tbody>
</table>

Features & Benefits

• HASTELLOY® C-276 and MONEL® optional
• Electropolished body with better than 25 Ra finish in diaphragm cavity for an optimal sealing surface
• Bubble-tight shutoff
• Unique spiral wrapped heat exchange element provides up to 100 square inches of heat transfer area.
• Available in 120VAC or 230VAC
• Optional TCO for T3 rating
• INCONEL® diaphragm standard
CV2 Series Cylinder Vaporizer

How to Order

To Order, contact your local Distributor Link below: 
www.goreg.com/distributor/index.htm
Verify that your chosen part number is valid using the GO Wizards at 
www.goreg.com/products/matrix/index.htm

Standard items in bold

<table>
<thead>
<tr>
<th>CV2 – 4 A</th>
<th>H 3 1</th>
<th>H 3 E</th>
<th>1 3 2 1 2 1</th>
</tr>
</thead>
</table>

**BODY MATERIAL**
- 1 316L stainless steel, stainless steel diaphragm
- 4 MONEL®, INCONEL® diaphragm
- 6 HASTELLOY® C, INCONEL® diaphragm
- C 316L stainless steel, INCONEL® diaphragm

**PORT CONFIGURATION**
- A Standard Body "A" (One inlet Port and One Outlet Port)
- For more configurations, see pages 47-48.

**PROCESS PORT TYPE**
- 0 1⁄8" FNPT
- 1 1⁄4" FNPT

**SEAT MATERIAL (1ST STAGE)**
- A Tefzel®
- B Ceramic Filled PTFE
- H PCTFE
- Q PEEK™

**FLOW COEFFICIENT (CV) (1ST STAGE)**
- C 0.025
- 3 0.06
- 5 0.2

**CAP ASSEMBLY (1ST STAGE)**
- 1 Tamper-proof, stainless steel
- 4 Tamper-proof, panel mount, stainless steel
- 7 Tamper-proof, captured vent, stainless steel

**SEAT MATERIAL (2ND STAGE)**
- A Tefzel®
- B Ceramic Filled PTFE
- H PCTFE
- Q PEEK™

**FLOW COEFFICIENT (CV) (2ND STAGE)**
- C 0.025
- 3 0.06
- 5 0.2

**OPTIONS**
- B EB-5 cleaning
- D Helium Leak Test
- E Pressure Test Certificate
- F Certificate of Conformity
- G CMTR

**VOLTAGE**
- 1 120 VAC
- 2 230 VAC
- 6 No electronics

**THERMISTOR TYPE**
- 1 Thermally protected (TCO)
- 2 Non-thermally protected
- 6 No electronics

**CONTROLLER TYPE**
- 1 Standard
- 2 Standard
- 6 No electronics

**HEATER WATTAGE**
- 1 40W
- 2 50W
- 3 100W
- 4 150W
- 6 No electronics
- 8 200W
- 9 250W

**TEMPERATURE RANGE**
- 1 55°-85°F (13-29°C)
- 2 75°-175°F (24-80°C)
- 3 130°-300°F (54-149°C)
- 4 260°-380°F (126-194°C)
- 6 No electronics

**CAP ASSEMBLY (2ND STAGE)**
- 1 Tamper-proof, stainless steel
- 4 Tamper-proof, panel mount, stainless steel
- 7 Tamper-proof, captured vent, stainless steel

**OUTPUT RANGE (2ND STAGE)**
- C 0–10 psig
- D 0–25 psig
- E 0–50 psig
- G 0–100 psig
- I 0–250 psig
- J 0–500 psig

**NOTE:**
1. Contact the factory for any additional requirements.
2. Units that will be used for flammable liquid or gas with fire point at 200°C or below require the TCO Thermistor. It is also recommended to use the 1-PC body option. In addition, Tefzel and PCTFE seats in these units are recommended to use the captured vent cap option which provides for venting to a safe location.

Maximum Temperature & Operating Inlet Pressures

<table>
<thead>
<tr>
<th>SEAT MATERIAL</th>
<th>MAXIMUM TEMPERATURE</th>
<th>MAXIMUM OPERATING INLET PRESSURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tefzel® &amp; Ceramic Filled PTFE</td>
<td>Up to 175°F (80°C)</td>
<td>3600 psig (24.82 MPa)</td>
</tr>
<tr>
<td></td>
<td>176°F to 300°F (80°C to 148°C)</td>
<td>1000 psig (6.90 MPa)</td>
</tr>
<tr>
<td></td>
<td>301°F to 380°F (148°C to 193°C)</td>
<td>400 psig (2.76 MPa)</td>
</tr>
<tr>
<td>PCTFE</td>
<td>Up to 175°F (80°C)</td>
<td>6000 psig (41.37 MPa)</td>
</tr>
<tr>
<td></td>
<td>176°F to 300°F (80°C to 148°C)</td>
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<td></td>
<td>301°F to 380°F (148°C to 193°C)</td>
<td>400 psig (2.76 MPa)</td>
</tr>
<tr>
<td>PEEK™</td>
<td>Up to 380°F (193°C)</td>
<td>6000 psig (41.37 MPa)</td>
</tr>
</tbody>
</table>
CV2 Series Cylinder Vaporizer

Outline and Mounting Dimensions

Panel mount option requires 1.390" (35.3mm) minimum diameter panel cut out

Weight = 9.3 lbs (4.2 kg)

Outlet

.Inlet

Ø .30 [7.6mm] on 3.09 [78.6mm] B.C.

Standard vent to atmosphere

Second Stage

First Stage

Standard vent to atmosphere
CV2 Series Cylinder Vaporizer
Steam Heated Two-stage Pressure Regulators

Introduction
The Cylinder Vaporizer Series Heated Pressure Regulator is designed to supply heat to samples entering instrumentation systems. It can be used to preheat liquids, to prevent condensation of gases or to vaporize liquids prior to gas analysis.

The design of the Cylinder Vaporizer consists of heat exchanger and pressure control sections. The pressure control section is patterned after the time proven design of the CYL-20 two-stage pressure reducing regulator and provides the same excellent outlet pressure stability with varying inlet pressures. The heat exchange element uses GO Regulator’s unique spiral wrapped screen as the heat exchange surface. This screen has up to 100 square inches of heat transfer area and precise design forces all sample flow to pass through the element.

Typical Applications
Analytical process sample conditioning systems:
- Petrochemical refineries
- Chemical production facilities
- Pilot plants (chemical & petrochemical)
- LNG loading and off-loading points
- Natural gas pipeline sampling

Features & Benefits
- Optional HASTELLOY® C-276 and MONEL®
- Electropolished body with better than 25 Ra finish in diaphragm cavity for an optimal sealing surface
- Bubble-tight shutoff
- Unique spiral wrapped heat exchange element provides up to 100 square inches of heat transfer area.
- INCONEL® diaphragm standard

Technical Data

| CONSTRUCTION | 316L stainless steel |
| OUTLET PRESSURES | 0–10, 0–25, 0–50, 0–100, 0–250, and 0–500 psig |
| OPERATING TEMPERATURE | up to 500° F (260° C) |
| Cv COEFFICIENTS | 0.06, 0.025, 0.2 |
CV2 Series Cylinder Vaporizer

How to Order

Standard items in bold

CV2 – 1 A 1 Q 3 1 Q 3 G 1 5 5 5 5

**BODY MATERIAL**
1 316L stainless steel, stainless steel diaphragm
4 MONEL®, INCONEL® diaphragm
6 HASTELLOY® C, INCONEL® diaphragm
C 316L stainless steel, INCONEL® diaphragm

**PORT CONFIGURATION**
A Standard Body "A" (One inlet Port and One Outlet Port)
For more configurations, see pages 47-48

**PROCESS PORT TYPE**
0 1⁄8" FNPT
1 1⁄4" FNPT

**SEAT MATERIAL (1ST STAGE)**
A Tefzel®
B Ceramic Filled PTFE
H PCTFE
Q PEEK™

**FLOW COEFFICIENT (CV) (1ST STAGE)**
C 0.025
3 0.06
5 0.2

**CAP ASSEMBLY (1ST STAGE)**
1 Tamper-proof, stainless steel
4 Tamper-proof, panel mount, stainless steel
7 Tamper-proof, captured vent, stainless steel

**SEAT MATERIAL (2ND STAGE)**
A Tefzel®
B Ceramic Filled PTFE
H PCTFE
Q PEEK™

**FLOW COEFFICIENT (CV) (2ND STAGE)**
C 0.025
3 0.06
5 0.2

**OPTIONS**
B EB-5 cleaning
D Helium Leak Test
E Pressure Test Certificate
F Certificate of Conformity
G CMTR

**VOLTAGE**
5 Steam

**THERMISTOR TYPE**
5 Steam

**CONTROLLER TYPE**
5 Steam

**HEATER WATTAGE**
5 Steam

**TEMPERATURE RANGE**
5 Steam

**CAP ASSEMBLY (2ND STAGE)**
1 Tamper-proof, stainless steel
4 Tamper-proof, panel mount, stainless steel
7 Tamper-proof, captured vent, stainless steel

**OUTPUT RANGE (2ND STAGE)**
C 0–10 psig
D 0–25 psig
E 0–50 psig
G 0–100 psig
I 0–250 psig
J 0–500 psig

NOTE: Contact the factory for any additional requirements.

### Maximum Temperature & Operating Inlet Pressures

<table>
<thead>
<tr>
<th>SEAT MATERIAL</th>
<th>MAXIMUM TEMPERATURE</th>
<th>@</th>
<th>MAXIMUM OPERATING INLET PRESSURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tefzel® Ceramic Filled PTFE &amp; PCTFE</td>
<td>Up to 380° F (193° C)</td>
<td>@</td>
<td>400 psig (2.76 MPa)</td>
</tr>
<tr>
<td>PEEK™</td>
<td>Up to 380° F (193° C)</td>
<td>@</td>
<td>6000 psig (41.37 MPa)</td>
</tr>
</tbody>
</table>

To Order, contact your local Distributor Link below: www.goreg.com/distributor/index.htm
Verify that your chosen part number is valid using the GO Wizards at www.goreg.com/products/matrix/index.htm

NOTE: Contact the factory for any additional requirements.
CV2 Series Cylinder Vaporizer

Outline and Mounting Dimensions

Steam Tube 1/2" O.D. X 0.049 Wall

Standard vent to atmosphere

Second Stage

First Stage

Standard vent to atmosphere

Panel Mount Option requires Ø 1.390" (35.3mm) minimum diameter panel cut-out

Weight: 5.6 lbs (2.5 kg)

Outlet

.90 [23mm]

Inlet

Ø 2.0 [51mm]

Ø 2.25 [57mm]

3.83 [97mm] Typ

9.0 [229mm]

7.65 [194mm]
DH2 Series Electrically Heated Dual Pressure Regulators

Introduction

The Dual Heated Pressure Regulator is designed to supply heat to samples entering instrumentation systems. It can be used to preheat liquids, to prevent condensation of gases or to vaporize liquids prior to gas analysis. Significant space savings can be realized due to the utilization of two discrete regulators that are heated by a common source.

The modular design of the Dual Heated Regulator consists of a heating element and pressure control sections. The pressure control sections are patterned after the time proven design of the PR-1 pressure reducing regulator and provides the same excellent outlet pressure stability. The heat exchanger section is made up of a body and a heating element.

The Dual Heated Pressure Regulators are ATEX approved. The electrical components of this unit are securely housed in a Class A, B, C, D conduit assuring that there is always an adequate flame path between the environment and the controller. Safety considerations can be further enhanced by using the optional TCO (Thermal Cut Out) heater cartridge. This feature enables the unit to boast a T3 rating with up to 250 watts of power. (CSA T2D rating)

Typical Applications

Analytical process sample conditioning systems:
- Petrochemical refineries
- Chemical production facilities
- Pilot plants (chemical & petrochemical)
- LNG loading and off-loading points
- Natural gas pipeline sampling

Technical Data

<table>
<thead>
<tr>
<th>CONSTRUCTION</th>
<th>316L stainless steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>OUTLET PRESSURES</td>
<td>0–10, 0–25, 0–50, 0–100, 0–250, and 0–500 psig</td>
</tr>
<tr>
<td>OPERATING TEMPERATURE</td>
<td>up to 380° F (193° C)</td>
</tr>
<tr>
<td>HEATING CAPACITY RANGES (IN WATTS)</td>
<td>40, 50, 100, and 150</td>
</tr>
<tr>
<td>Cv COEFFICIENTS</td>
<td>0.06, 0.025, 0.2</td>
</tr>
<tr>
<td>CERTIFICATIONS</td>
<td>CSA certification # LR-82566-5, ATEX Directive 2014/34/EU Certification # TRL03ATEX11001X</td>
</tr>
</tbody>
</table>

Features & Benefits

- Optional HASTELLOY® C-276 and MONEL®
- Electropolished body with better than 25 Ra finish in diaphragm cavity for an optimal sealing surface
- Bubble-tight shutoff
- Available in 120VAC or 230VAC
- Optional TCO heating cartridge for T3 rating
- INCONEL® diaphragm standard
### How to Order

**DH2 Series**

**Regulator A**

**Regulator B**

#### BODY MATERIAL

- 1 316L stainless steel, stainless steel diaphragm
- 4 MONEL®, INCONEL® diaphragm
- 6 HASTELLOY® C, INCONEL® diaphragm
- C 316L stainless steel INCONEL® diaphragm

#### PORT CONFIGURATION

- A Standard Body "A" (One inlet port and one outlet port on each side. For more configurations, see pages 49-51)

#### PROCESS PORT TYPE

- 0 ¼" FNPT (ALL PORTS)
- 1 ½" FNPT (ALL PORTS)

#### SEAT MATERIAL (REGULATOR A)

- A Tefzel®
- B Ceramic Fillled PTFE
- H PCTFE
- Q PEEK™

#### FLOW COEFFICIENT (REGULATOR A)

- C 0.025
- 3 0.06
- 5 0.2

#### OUTLET RANGE (REGULATOR A)

- C 0–10 psig
- D 0–25 psig
- E 0–50 psig
- G 0–100 psig
- I 0–250 psig
- J 0–500 psig
- K 0–1000 psig, BP-6 Top Works Only
- W 0–750 psig

#### CAP ASSEMBLY (REGULATOR A)

- 1 Tamper-proof, stainless steel
- 4 Tamper-proof, panel mount, stainless steel
- 7 Tamper-proof, captured vent, stainless steel
- L T-handle, stainless steel, BP-6 Top Works

#### SEAT MATERIAL (REGULATOR B)

- A Tefzel®
- B Ceramic Fillled PTFE
- H PCTFE (formerly Kel-F® 81)
- Q PEEK™

#### FLOW COEFFICIENT (REGULATOR B)

- C 0.025
- 3 0.06
- 5 0.2

#### OPTIONS

- B EB-5 Cleaning
- D Helium Leak Test
- E Pressure Test Certificate
- F Certificate of Conformity
- G CMTR

#### VOLTAGE

- 1 120 VAC
- 2 230 VAC
- 2 No electronics

#### THERMISTOR TYPE

- 1 Thermally protected (TCO)
- 2 Non-thermally protected
- 6 No electronics

#### CONTROLLER TYPE

- 1 Standard
- 2 Standard
- 6 No electronics

#### HEATER WATTAGE

- 1 40W
- 2 50W
- 3 100W
- 4 150W
- 6 No electronics
- 8 200W
- 9 250W

#### TEMPERATURE RANGE

- 1 55°-85°F (13-29°C)
- 2 75°-175°F (24-80°C)
- 3 130°-300°F (54-149°C)
- 4 260°-380°F (126-194°C)
- 6 No electronics

#### CAP ASSEMBLY (REGULATOR B)

- 1 Tamper-proof, stainless steel
- 4 Tamper-proof, panel mount, stainless steel
- 7 Tamper-proof, captured vent, stainless steel
- L T-handle, stainless steel, BP-6 Top Works

#### OUTPUT RANGE (REGULATOR B)

- C 0–10 psig
- D 0–25 psig
- E 0–50 psig
- G 0–100 psig
- I 0–250 psig
- J 0–500 psig
- K 0–1000 psig, BP-6 Top Works Only
- W 0–750 psig

### Maximum Temperature & Operating Inlet Pressures

<table>
<thead>
<tr>
<th>SEAT MATERIAL</th>
<th>MAXIMUM TEMPERATURE</th>
<th>MAXIMUM OPERATING INLET PRESSURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tefzel® &amp; Ceramic Fillled PTFE</td>
<td>Up to 175° F (80° C)</td>
<td>3600 psig (24.82 MPa)</td>
</tr>
<tr>
<td></td>
<td>176° F to 300° F (80° C to 148° C)</td>
<td>1000 psig (6.90 MPa)</td>
</tr>
<tr>
<td></td>
<td>301° F to 380° F (148° C to 193° C)</td>
<td>400 psig (2.76 MPa)</td>
</tr>
<tr>
<td>PCTFE</td>
<td>Up to 175° F (80° C)</td>
<td>6000 psig (41.37 MPa)</td>
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<td>PEEK™</td>
<td>Up to 380° F (193° C)</td>
<td>6000 psig (41.37 MPa)</td>
</tr>
</tbody>
</table>

**NOTE:**

1. Contact the factory for any additional requirements.
2. Units that will be used for flammable liquid or gas with fire point at 200°C or below require the TCO Thermistor. It is also recommended to use the 1-PC body option. In addition, Tefzel and PCTFE seats in these units are recommended to use the captured vent cap option which provides for venting to a safe location.
DH2 Series
Outline and Mounting Dimensions

Panel mount option requires 1.390" (35.3mm) minimum diameter panel cut out

Weight = 9.3 lbs (4.2 kg)
**DH2 Series**
Steam Heated Dual Pressure Regulators

**Introduction**

The Dual Heated Pressure Regulator is designed to supply heat to samples entering instrumentation systems. It can be used to preheat liquids, to prevent condensation of gases or to vaporize liquids prior to gas analysis. Significant space savings can be realized due to the utilization of two discrete regulators that are heated by a common source.

The modular design of the Dual Heated Regulator consists of a heating element and pressure control sections. The pressure control sections are patterned after the time-proven design of the PR-1 pressure reducing regulator and provides the same excellent outlet pressure stability. The heat exchanger section is made up a body and a heating element.

**Typical Applications**

Analytical process sample conditioning systems:
- Petrochemical refineries
- Chemical production facilities
- Pilot plants (chemical & petrochemical)
- LNG loading and off-loading points
- Natural gas pipeline sampling

**Technical Data**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CONSTRUCTION</strong></td>
<td>316L stainless steel</td>
</tr>
<tr>
<td><strong>OUTLET PRESSURES</strong></td>
<td>0–10, 0–25, 0–50, 0–100, 0–250, 0–500, 0–750, and 0–1000 psig</td>
</tr>
<tr>
<td><strong>OPERATING TEMPERATURE</strong></td>
<td>up to 500° F (260° C)</td>
</tr>
<tr>
<td><strong>Cv COEFFICIENTS</strong></td>
<td>0.06, 0.025, 0.2</td>
</tr>
</tbody>
</table>

**Features & Benefits**

- Optional HASTELLOY® C-276 and MONEL®
- Electropolished body with better than 25 Ra finish in diaphragm cavity for an optimal sealing surface
- Bubble-tight shutoff
- Modular pressure control and heat exchanger assemblies for easy maintenance
- INCONEL® diaphragm standard
DH2 Series

How to Order

Standard items in bold

DH2 – 1  A  1  H  3  J  1  Q  3  E  1  5  5  5  5  5

BODY MATERIAL
1 316L stainless steel, stainless steel diaphragm
4 MONEL®, INCONEL® diaphragm
6 HASTELLOY® C, INCONEL® diaphragm
C 316L stainless steel, INCONEL® diaphragm

PORT CONFIGURATION
A Standard Body “A” (One inlet port and one outlet port on each side.
For more configurations, see pages 49-51
PROCESS PORT TYPE
0 ⅛” FNPT (ALL PORTS)
1 ¼” FNPT (ALL PORTS)
SEAT MATERIAL (REGULATOR A)
A Tefzel®
B Ceramic Filled PTFE
H PCTFE
Q PEEK™
FLOW COEFFICIENT (REGULATOR A)
C 0.025
3 0.06
5 0.2
OUTLET RANGE (REGULATOR A)
C 0–10 psig
D 0–25 psig
E 0–50 psig
G 0–100 psig
I 0–250 psig
J 0–500 psig
K 0–1000 psig, BP-6 Top Works Only
W 0–750 psig
CAP ASSEMBLY (REGULATOR A)
1 Tamper-proof, stainless steel
4 Tamper-proof, panel mount, stainless steel
7 Tamper-proof, captured vent, stainless steel
L T-handle, stainless steel, BP-6 Top Works

SEAT MATERIAL (REGULATOR B)
A Tefzel®
B Ceramic Filled PTFE
H PCTFE
Q PEEK™
FLOW COEFFICIENT (REGULATOR B)
C 0.025
3 0.06
5 0.2
OUTPUT RANGE (REGULATOR B)
C 0–10 psig
D 0–25 psig
E 0–50 psig
G 0–100 psig
I 0–250 psig
J 0–500 psig
K 0–1000 psig, BP-6 Top Works Only
W 0–750 psig

NOTE: Contact the factory for any additional requirements.

Maximum Temperature & Operating Inlet Pressures

<table>
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<tr>
<th>SEAT MATERIAL</th>
<th>MAXIMUM TEMPERATURE</th>
<th>@</th>
<th>MAXIMUM OPERATING INLET PRESSURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tefzel®, Ceramic Filled PTFE &amp; PCTFE</td>
<td>Up to 380°F (193°C) (148°C to 193°C)</td>
<td>@</td>
<td>400 psig (2.76 MPa)</td>
</tr>
<tr>
<td>PEEK™</td>
<td>Up to 380°F (193°C)</td>
<td>@</td>
<td>6000 psig (41.37 MPa)</td>
</tr>
</tbody>
</table>

To Order, contact your local Distributor Link below: www.goreg.com/distributor/index.htm
Verify that your chosen part number is valid using the GO Wizards at www.goreg.com/products/matrix/index.htm
**DH2 Series**

**Outline and Mounting Dimensions**

Steam Tube 1/2” O.D. X 0.049 Wall

Standard vent to atmosphere

Second Stage

First Stage

Panel Mount Option requires Ø 1.390” (35.3mm) minimum diameter panel cut-out

Weight: 5.6 lbs (2.5 kg)
MV-2 Series
Miniature Vaporizing Pressure Regulator

Introduction

The MV-2 Series Miniature Vaporizing Regulator is one of the smallest envelopes in the industry. Weighing in at a scant 0.86 pounds, the MV-2 is designed to supply heat to samples entering instrumentation systems where space is at a premium and quality cannot be compromised. It can be used to preheat liquids, to prevent condensation of gases or to vaporize liquids prior to gas analysis.

The pressure control section of the MV-2 is patterned after the time-tested design of our CPR-1 and provides the same excellent outlet pressure stability. The heating plate utilizes GO Regulator’s unique heating element and incorporates an optional Thermal Cutout Device (TCO). This device prevents any exposed surface of the unit from exceeding 200° C under normal or fault conditions and is exclusive to GO Regulator’s line of electrically heated vaporizing regulators. Offered in both 12 VDC and 24 VDC, the MV-2 Series offers the utmost in unequalled system safety and performance.

Features & Benefits

• Electro polished body with better than 25 Ra finish in diaphragm cavity for an optimal sealing surface
• Bubble-tight shutoff
• Unique Spiro-Wind heating element provides exceptionally even heating
• Available in 12 VDC and 24 VDC
• Optional TCO heating cartridge

Technical Data

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONSTRUCTION</td>
<td>316L stainless steel</td>
</tr>
<tr>
<td>OUTLET PRESSURES</td>
<td>0–10, 0–25, 0–50, 0–100, 0–250, and 0–500 psig</td>
</tr>
<tr>
<td>OPERATING TEMPERATURE</td>
<td>up to 380° F (193° C)</td>
</tr>
<tr>
<td>HEATING CAPACITY RANGES (IN WATTS)</td>
<td>40 and 100</td>
</tr>
</tbody>
</table>

Typical Applications

Analytical process sample conditioning systems:
• Petrochemical refineries
• Chemical production facilities
• Pilot plants (chemical & petrochemical)
• Portable low voltage analyzers

pressure regulators
How to Order

Standard items in bold

MV2 – 1 A B 2 3 B 3 E H D 1

**BODY MATERIAL**
1. 316L stainless steel
2. MONEL®

**PORT CONFIGURATION**
A. Standard
For more configurations, see page 46

**PORT TYPE**
0. ¼” FNPT (all ports)
A. ½” FNPT (all ports)
B. ¾” FNPT inlets; ½” FNPT outlets

**TEMPERATURE RANGE**
1. 55°-85°F (13-29°C)
2. 75°-175°F (24-80°C)
3. 130°-300°F (54-149°C)
4. 260°-380°F (126-194°C)
0. No electronics

**HEATER WATTAGE**
1. 40W
2. 40W with thermal cutout (TCO)
3. 100W
4. 100W with thermal cutout (TCO)
0. No electronics

**HEATER VOLTAGE**
B. 12 VDC
C. 24 VDC
0. No electronics

**OPTIONS (NOT REQUIRED)**
B. EB5 cleaning
D. Helium leak test
E. Pressure test certificate
F. Certificate of Conformity
G. CMTR

**CAP STYLE**
1. Tamper-proof, stainless steel
4. Tamper-proof, panel mount, stainless steel

**CAVITY O-RING MATERIAL**
D. Viton®
I. PTFE

**SEAT MATERIAL**
A. Tefzel®
H. PCTFE
Q. PEEK™

**OUTPUT RANGE**
C. 0–10 psig
D. 0–25 psig
E. 0–50 psig
G. 0–100 psig
I. 0–250 psig
J. 0–500 psig

**FLOW COEFFICIENT (Cv)**
3. 0.06
C. 0.025

---

**Maximum Temperature & Operating Inlet Pressures**

<table>
<thead>
<tr>
<th>SEAT MATERIAL</th>
<th>MAXIMUM TEMPERATURE</th>
<th>OPERATING INLET PRESSURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tefzel® &amp; PCTFE</td>
<td>Up to 175° F (80° C)</td>
<td>3600 psig (24.82 MPa)</td>
</tr>
<tr>
<td>176° F to 300° F (80° C to 148° C)</td>
<td></td>
<td>1000 psig (6.90 MPa)</td>
</tr>
<tr>
<td>301° F to 380° F (148° C to 193° C)</td>
<td></td>
<td>400 psig (2.76 MPa)</td>
</tr>
<tr>
<td>PEEK™</td>
<td>Up to 380° F (193° C)</td>
<td>3600 psig (24.82 MPa)</td>
</tr>
</tbody>
</table>

---

**NOTE:** Contact the factory for any additional requirements.
MV-2 Series
Outline and Mounting Dimensions

Removeable PCB Enclosure

Top View

- Hole for manual temperature adjustment
- Clear Window
- LED's
- CANbus and MODbus connection
- DC power IN

Side View

- Standard Vent to Atmosphere
- Outlet
- Inlet
- Panel Mount option requires 1.39 (35.3mm) minimum diameter panel cut out

Weight = 0.86 lbs (.39 kg)

Dimensions:
- Ø 1.62
- Ø 1.50 [38mm]
- Ø 1.62
- (3.3)
- (1.4)
- 3.34 [85mm]
- 0.85 [22mm]
HXR Series
Insitu Temperature Compensating Pressure Regulator

Introduction
The HXR Series Insitu pressure regulator was designed to offset the Joules-Thompson temperature effect. This effect is the cooling that occurs during a pressure drop as a gas passes through an orifice. With HXR Series, the cooling is offset by placing the pressure regulating orifice at the tip of the probe assembly in the process line. As a result, the pressure reduced sample gas passes through a section of the probe that has heat exchange fins. As the cooled sample gas flows through this section of the probe assembly, it is reheated by heat picked up from the warmer high pressure process gas flowing around the outside of the probe assembly, thus returning the sample to the original process line working temperature and also preventing the condensation of liquids in the sample.

Typical Applications
Analytical process sample conditioning systems:
• Gas pipelines

Technical Data
<table>
<thead>
<tr>
<th>CONSTRUCTION</th>
<th>316L stainless steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>OUTLET PRESSURES</td>
<td>0–10, 0–25, 0–50, 0–100, 0–250, and 0–500 psig</td>
</tr>
<tr>
<td>MAX. INLET WORKING PRESSURE AT MAX. TEMP.</td>
<td>3600 psig</td>
</tr>
<tr>
<td>Cv COEFFICIENTS</td>
<td>0.025</td>
</tr>
</tbody>
</table>

Features & Benefits
• Prevents liquid carry over
• Insitu design allows for easy installation directly into process line
• Ensures a more representative and accurate sample analysis of process streams
• Electropolished body with better than 25 Ra finish in diaphragm cavity
• Bubble-tight shutoff
• Available in ¾” MNPT probe gland connection
• 70 micron filter
• Port sizes & configuration ¼” FNPT: 3 low pressure ports situated 90° apart
• Optional probe lengths available
• Optional gauge
**HXR Series**

**How to Order**

Standard items in bold

<table>
<thead>
<tr>
<th>BODY MATERIAL</th>
<th>1 316L stainless steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPTIONAL PORTING TYPES</td>
<td>1 ¼˝ FNPT</td>
</tr>
<tr>
<td>SURFACE FINISH OF DIAPHRAGM CAVITY</td>
<td>1 &lt; 25 Ra</td>
</tr>
</tbody>
</table>
| SEAT MATERIAL | A Tefzel®  
|               | C Polyimide |
| MOUNTING THREAD | 1 ¾˝ MNPT |

**OPTIONS (NOT REQUIRED)**

| OPTIONS | B EB5 cleaning  
|          | D Helium leak test  
|          | E Pressure test certificate  
|          | F Certificate of Conformity  
|          | G CMTR |

**INSERTION LENGTH**

| LENGTH | 0 No extension (3.75˝ ins. length)  
|        | 1 Short extension (8.05˝ ins. length)  
|        | 2 Long extension (11.05˝ ins. length) |

**CAP ASSEMBLY**

| CAP | 1 Stainless steel |

**DIAPHRAGM LINER / BACKING**

| LINER | 6 Tefzel® ring / stainless steel |

**DIAPHRAGM TYPE**

| TYPE | 1 Standard |

**OUTLET RANGE**

| RANGE | C 0–10 psig  
|       | D 0–25 psig  
|       | E 0–50 psig  
|       | G 0–100 psig  
|       | I 0–250 psig  
|       | J 0–500 psig |

**Maximum Temperature & Operating Inlet Pressures**

<table>
<thead>
<tr>
<th>SEAT MATERIAL</th>
<th>MAXIMUM TEMPERATURE</th>
<th>MAXIMUM OPERATING PRESSURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tefzel®</td>
<td>150° F (66° C)</td>
<td>3600 psig (20.68 MPa)</td>
</tr>
<tr>
<td>Polyimide</td>
<td>500° F (260° C)</td>
<td>3600 psig (20.68 MPa)</td>
</tr>
</tbody>
</table>

**Outline and Mounting Dimensions**

**EXTENDER**

<table>
<thead>
<tr>
<th>EXTENDER</th>
<th>INSERTION LENGTH</th>
<th>OVERALL LENGTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>None (~0)</td>
<td>3.7˝</td>
<td>8.45˝</td>
</tr>
<tr>
<td>Short (~1)</td>
<td>7.8˝</td>
<td>12.45˝</td>
</tr>
<tr>
<td>Long (~2)</td>
<td>11.0˝</td>
<td>15.75˝</td>
</tr>
</tbody>
</table>

**NOTE:** Contact the factory for any additional requirements.
Introduction
The heart of the LNG Vaporizer Assembly is the well-known HPR-2 Series heated pressure control valve. This unit has been used in many successful applications requiring heating of a process stream sample prior to analysis to prevent freeze up or for vaporization. The HPR-2 is a modularized unit consisting of a heated section and pressure control section. A field demonstration has now shown this vaporizer assembly to be serviceable in the vaporization of LNG product for analytical purposes and that homogeneous samples can be obtained under steady state operating conditions.

The HPR-2 pressure control valve is contained in a painted, insulated sheet metal enclosure and combined with an insulated input line plus a pressure gauge and relief valve. The heater section of the electric version is equipped with a thermostat for temperature control and is constructed to meet standard Division 1 Electrical Code requirements.

Typical Applications
- LNG loading and off-loading points
- Petrochemical refineries
- Chemical production facilities
- Natural gas pipelines

Technical Data – Steam Heated

<table>
<thead>
<tr>
<th>Construction</th>
<th>316L stainless steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outlet Pressures</td>
<td>0–10, 0–25, 0–50, 0–100, 0–250, and 0–500 psig</td>
</tr>
<tr>
<td>Inlet Pressure</td>
<td>up to 3600 psig at 380°F (193°C)</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>up to 500°F (260°C)</td>
</tr>
<tr>
<td>Inlet Connections</td>
<td>1/8˝ FNPT</td>
</tr>
<tr>
<td>Outlet Connections</td>
<td>¼˝ FNPT</td>
</tr>
</tbody>
</table>

Technical Data – Electrically Heated

<table>
<thead>
<tr>
<th>Construction</th>
<th>316L stainless steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outlet Pressures</td>
<td>0–10, 0–25, 0–50, 0–100, 0–250, and 0–500 psig</td>
</tr>
<tr>
<td>Inlet Pressure</td>
<td>up to 3600 psig at 380°F (193°C)</td>
</tr>
<tr>
<td>Heating Capacity Ranges (in Watts)</td>
<td>40, 50, 100, and 150</td>
</tr>
<tr>
<td>Certifications</td>
<td>CSA certification # LR-82566-5 ATEX Directive 2014/34/EU Certification # TRL03ATEX11001X</td>
</tr>
</tbody>
</table>
## LNG Series

### How to Order

**Standard items in bold**

**BASIC PART NUMBER**

<table>
<thead>
<tr>
<th>Basic Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>102830</td>
<td>0–10 psig electronically heated, s.s diaphragm</td>
</tr>
<tr>
<td>102831</td>
<td>0–25 psig electronically heated, s.s diaphragm</td>
</tr>
<tr>
<td>102832</td>
<td>0–50 psig electronically heated, s.s diaphragm</td>
</tr>
<tr>
<td>102833</td>
<td>0–100 psig electronically heated, s.s diaphragm</td>
</tr>
<tr>
<td>102834</td>
<td>0–250 psig electronically heated, s.s diaphragm</td>
</tr>
<tr>
<td>102835</td>
<td>0–500 psig electronically heated, s.s diaphragm</td>
</tr>
<tr>
<td>109551</td>
<td>0–25 psig steam heated, s.s diaphragm</td>
</tr>
<tr>
<td>109552</td>
<td>0–50 psig steam heated, s.s diaphragm</td>
</tr>
<tr>
<td>109553</td>
<td>0–100 psig steam heated, s.s diaphragm</td>
</tr>
<tr>
<td>109554</td>
<td>0–250 psig steam heated, s.s diaphragm</td>
</tr>
<tr>
<td>109555</td>
<td>0–500 psig steam heated, s.s diaphragm</td>
</tr>
<tr>
<td>103680</td>
<td>0–10 psig electronically heated, INCONEL® diaphragm</td>
</tr>
<tr>
<td>103681</td>
<td>0–25 psig electronically heated, INCONEL® diaphragm</td>
</tr>
<tr>
<td>103682</td>
<td>0–50 psig electronically heated, INCONEL® diaphragm</td>
</tr>
<tr>
<td>103683</td>
<td>0–100 psig electronically heated, INCONEL® diaphragm</td>
</tr>
<tr>
<td>103684</td>
<td>0–250 psig electronically heated, INCONEL® diaphragm</td>
</tr>
<tr>
<td>103685</td>
<td>0–500 psig electronically heated, INCONEL® diaphragm</td>
</tr>
<tr>
<td>109561</td>
<td>0–25 psig steam heated, INCONEL® diaphragm</td>
</tr>
<tr>
<td>109562</td>
<td>0–50 psig steam heated, INCONEL® diaphragm</td>
</tr>
<tr>
<td>109563</td>
<td>0–100 psig steam heated, INCONEL® diaphragm</td>
</tr>
<tr>
<td>109564</td>
<td>0–250 psig steam heated, INCONEL® diaphragm</td>
</tr>
<tr>
<td>109565</td>
<td>0–500 psig steam heated, INCONEL® diaphragm</td>
</tr>
</tbody>
</table>

**SEAT MATERIAL**

<table>
<thead>
<tr>
<th>Letter</th>
<th>Material</th>
<th>Maximum Temperature/Operating Inlet Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Tefzel®</td>
<td>Up to 175°F (80°C) @ 3600 psig (24.82 MPa)</td>
</tr>
<tr>
<td>B</td>
<td>Ceramic Filled PTFE</td>
<td>176°F to 300°F (80°C to 148°C) @ 1000 psig (6.90 MPa)</td>
</tr>
<tr>
<td>C</td>
<td>Ceramic Filled PTFE &amp; PCTFE</td>
<td>301°F to 380°F (148°C to 193°C) @ 400 psig (2.76 MPa)</td>
</tr>
<tr>
<td>H</td>
<td>PCTFE</td>
<td>Up to 380°F (193°C) @ 3600 psig (24.82 MPa)</td>
</tr>
<tr>
<td>Q</td>
<td>PEEK™</td>
<td>Up to 380°F (193°C) @ 3600 psig (24.82 MPa)</td>
</tr>
</tbody>
</table>

**WATTAGE**

<table>
<thead>
<tr>
<th>Wattage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>40 watts</td>
</tr>
<tr>
<td>2</td>
<td>50 watts</td>
</tr>
<tr>
<td>3</td>
<td>100 watts</td>
</tr>
<tr>
<td>4</td>
<td>150 watts</td>
</tr>
<tr>
<td>5</td>
<td>Steam heated</td>
</tr>
<tr>
<td>8</td>
<td>200 watts</td>
</tr>
<tr>
<td>9</td>
<td>250 watts</td>
</tr>
</tbody>
</table>

**NOTE:**

1. Contact the factory for any additional requirements.
2. Units that will be used for flammable liquid or gas with fire point at 200°C or below require the TCO Thermistor. It is also recommended to use the 1-PC body option. In addition, Tefzel and PCTFE seats in these units are recommended to use the captured vent cap option which provides for venting to a safe location.

## Maximum Temperature & Operating Inlet Pressures

### HPR-2 Electric

<table>
<thead>
<tr>
<th>Seat Material</th>
<th>Maximum Temperature/Operating Inlet Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tefzel®</td>
<td>Up to 175°F (80°C) @ 3600 psig (24.82 MPa)</td>
</tr>
<tr>
<td>Ceramic Filled PTFE &amp; PCTFE</td>
<td>176°F to 300°F (80°C to 148°C) @ 1000 psig (6.90 MPa)</td>
</tr>
<tr>
<td>PEEK™</td>
<td>Up to 380°F (193°C) @ 3600 psig (24.82 MPa)</td>
</tr>
</tbody>
</table>

### HPR-2 Steam

<table>
<thead>
<tr>
<th>Seat Material</th>
<th>Maximum Temperature/Operating Inlet Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ceramic Filled PTFE &amp; PCTFE</td>
<td>Up to 380°F (193°C) @ 400 psig (2.76 MPa)</td>
</tr>
<tr>
<td>PEEK™</td>
<td>Up to 380°F (193°C) @ 3600 psig (24.82 MPa)</td>
</tr>
</tbody>
</table>

To Order, contact your local Distributor Link below:

[www.goreg.com/distributor/index.htm](http://www.goreg.com/distributor/index.htm)

Verify that your chosen part number is valid using the GO Wizards at [www.goreg.com/products/matrix/index.htm](http://www.goreg.com/products/matrix/index.htm)
**HBP Series**
Electrically Heated Back Pressure Regulators

**Introduction**
The HBP Series heated back pressure regulator is designed to supply heat to samples entering instrumentation systems. It can be used to preheat liquids, to prevent condensation of gases or to vaporize liquids prior to gas analysis.

The modular design of the HBP consists of heat exchanger and pressure control sections. The pressure control section is patterned after the time proven design of the BP-3 back pressure regulator and provides the same excellent upstream pressure stability. The heat exchanger section is made up of a body and heat exchange element and is based on the time proven design of the HPR-2 vaporizing regulator. The heat exchange element uses GO Regulator’s unique spiral wrapped screen as the heat exchange surface. This screen has up to 100 square inches of heat transfer area and precise design forces all sample flow to pass through the element just prior to exiting the regulator.

The HBP Series of vaporizing back pressure regulators are both CSA and ATEX approved. The electrical components of this unit are securely housed in a Class A, B, C, D conduit assuring that there is always an adequate flame path between the environment and the controller. Safety considerations can be further enhanced by using the optional TCO (Thermal Cut Out) heater cartridge. This feature enables the unit to boast a T3 rating with up to 250 watts of power (CSA rated T2D watt heater).

**Typical Applications**
Analytical process sample conditioning systems:
- Petrochemical refineries
- Chemical production facilities
- Pilot plants (chemical & petrochemical)
- LNG loading and off-loading points
- Natural gas pipeline sampling

**Technical Data**

<table>
<thead>
<tr>
<th>CONSTRUCTION</th>
<th>316L stainless steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONTROL PRESSURES</td>
<td>0–10, 0–25, 0–50, 0–100, 0–250, 0–500, 0–750 and 0–1000 psig</td>
</tr>
<tr>
<td>HEATING CAPACITY RANGES (IN WATTS)</td>
<td>50, 100, 150, 200 and 250</td>
</tr>
<tr>
<td>C&lt;sub&gt;0&lt;/sub&gt; COEFFICIENT</td>
<td>0.2, others available</td>
</tr>
</tbody>
</table>
| CERTIFICATIONS        | CSA certification # LR-82566-5  
ATEX Directive 2014/34/EU  
Certification # TRL03ATEX11001X |

**Features & Benefits**
- Optional HASTELLOY<sup>®</sup> C and MONEL<sup>®</sup>
- Electropolished body with better than 25 Ra finish in diaphragm cavity for an optimal sealing surface
- Bubble-tight shutoff
- Modular pressure control and heat exchanger assemblies for easy maintenance
- Unique spiral wrapped heat exchange element provides up to 100 square inches of heat transfer area.
- Available in 120VAC or 230VAC
- Optional TCO heating cartridge
- INCONEL<sup>®</sup> diaphragm standard
## How to Order

Standard items in bold

### HBP – 4 Z 3 3 Q 3 G 4 1 4 1

<table>
<thead>
<tr>
<th>BODY MATERIAL</th>
<th>1</th>
<th>316L stainless steel, stainless steel diaphragm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4</td>
<td>MONEL®, INCONEL® diaphragm</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>HASTELLOY® C, INCONEL® diaphragm</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>316L stainless steel, INCONEL® diaphragm</td>
</tr>
</tbody>
</table>

### HBP Steam, 1 & 2-Piece Body

<table>
<thead>
<tr>
<th>SEAT MATERIAL</th>
<th>Maximum Temperature</th>
<th>Maximum Operating Inlet Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viton®</td>
<td>Up to 175°F (79°C)</td>
<td>@ 3600 psig (24.82 MPa)</td>
</tr>
<tr>
<td></td>
<td>176°F to 300°F (80°C to 148°C)</td>
<td>Not Available</td>
</tr>
<tr>
<td></td>
<td>301°F to 380°F (149°C to 193°C)</td>
<td>Not Available</td>
</tr>
<tr>
<td>High Density PTFE</td>
<td>Up to 175°F (79°C)</td>
<td>@ 500 psig (3.45 MPa)</td>
</tr>
<tr>
<td></td>
<td>176°F to 300°F (80°C to 148°C)</td>
<td>Not Available</td>
</tr>
<tr>
<td></td>
<td>301°F to 380°F (149°C to 193°C)</td>
<td>Not Available</td>
</tr>
<tr>
<td>Ceramic Filled PTFE</td>
<td>Up to 175°F (79°C)</td>
<td>@ 500 psig (3.45 MPa)</td>
</tr>
<tr>
<td></td>
<td>176°F to 300°F (80°C to 148°C)</td>
<td>Not Available</td>
</tr>
<tr>
<td></td>
<td>301°F to 380°F (149°C to 193°C)</td>
<td>Not Available</td>
</tr>
<tr>
<td>Kalrez</td>
<td>Up to 175°F (79°C)</td>
<td>@ 250 psig (1.72 MPa)</td>
</tr>
<tr>
<td></td>
<td>176°F to 300°F (80°C to 148°C)</td>
<td>@ 250 psig (1.72 MPa)</td>
</tr>
<tr>
<td></td>
<td>301°F to 380°F (149°C to 193°C)</td>
<td>Not Available</td>
</tr>
<tr>
<td>Polyimide</td>
<td>Up to 380°F (193°C)</td>
<td>@ 1000 psig (6.89 MPa)</td>
</tr>
<tr>
<td></td>
<td>Up to 380°F (193°C)</td>
<td>@ 1000 psig (6.89 MPa)</td>
</tr>
</tbody>
</table>

### Other Options

- B: EBS cleaning
- D: Helium leak test
- E: Pressure test certificate
- F: Certificate of Conformity
- G: CMTR
- P: PEEK™ Diaphragm Liner

### Options

1. TCO Thermistor
2. TCO Thermistor with 1-Piece Body
3. 1-Piece Body
4. Other options

### CAP ASSEMBLY

1. Tamper-proof, standard, stainless steel
2. Tamper-proof, panel, mount, stainless steel
3. Tamper-proof, captured vent, stainless steel
4. Tamper-proof, captured vent, panel mount, stainless steel
5. BP-6 topworks, stainless steel

### Heater Block Porting

1. Standard block (1/4" NPT Inlet, 1/8" NPT Outlet)
4. Reverse block
2. Standard block with 1/4" NPT Outlet

### Heater Block Type

1. Steam
2. Steam XW
3. 120 VAC
4. 230 VAC
5. No electronics
6. 120 VAC XW
7. 230 VAC XW

### Control Range

- C: 0–10 psig (0-0.69 bar)
- D: 0–25 psig (0-1.72 bar)
- E: 0–50 psig (0-3.45 bar)
- G: 0–100 psig (0-6.90 bar)
- I: 0–250 psig (0-17.24 bar)
- J: 0–500 psig (0-34.50 bar)
- K: 0–1000 psig (BP-6 Top Works must be selected)
- W: 0–750 psig (0-51.80 bar)

### Flow Coefficient (Cv)

<table>
<thead>
<tr>
<th></th>
<th>0.03</th>
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<tbody>
<tr>
<td>3</td>
<td>0.06</td>
</tr>
<tr>
<td>5</td>
<td>0.20 (Standard)</td>
</tr>
<tr>
<td>6</td>
<td>0.24</td>
</tr>
<tr>
<td>7</td>
<td>0.30</td>
</tr>
<tr>
<td>C</td>
<td>0.025</td>
</tr>
<tr>
<td>E</td>
<td>0.04</td>
</tr>
<tr>
<td>I</td>
<td>0.005</td>
</tr>
</tbody>
</table>

### Maximum Temperature & Operating Inlet Pressures

#### HBP Electric, 1 & 2-Piece Body

<table>
<thead>
<tr>
<th>SEAT MATERIAL</th>
<th>Maximum Temperature</th>
<th>Maximum Operating Inlet Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viton®</td>
<td>Not Available</td>
<td>@ Not Available</td>
</tr>
<tr>
<td></td>
<td>Barometric Pressure</td>
<td>@ Not Available</td>
</tr>
<tr>
<td>High Density PTFE</td>
<td>Not Available</td>
<td>@ Not Available</td>
</tr>
<tr>
<td></td>
<td>Barometric Pressure</td>
<td>@ Not Available</td>
</tr>
<tr>
<td>Ceramic Filled PTFE</td>
<td>Up to 380°F (193°C)</td>
<td>@ 250 psig (1.72 MPa)</td>
</tr>
<tr>
<td></td>
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</tr>
<tr>
<td>Kalrez</td>
<td>Up to 380°F (193°C)</td>
<td>@ 1000 psig (6.89 MPa)</td>
</tr>
<tr>
<td></td>
<td>Barometric Pressure</td>
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</tr>
<tr>
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<tr>
<td></td>
<td>Barometric Pressure</td>
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<tr>
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#### HBP Steam, 1 & 2-Piece Body

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**NOTE:** 1. Contact the factory for any additional requirements.
2. Units that will be used for flammable liquid or gas with fire point at 200°C or below require the TCO Thermistor. It is also recommended to use the 1-PC body option. In addition, Tefzel and PCTFE seats in these units are recommended to use the captured vent cap option which provides for venting to a safe location.
HBP Series
Outline & Mounting Dimensions

Panel mount option requires 1.390” (35.3mm) minimum diameter panel cut out
Weight 8.7 lbs (3.95 kg)
Heater Block Configurations for HPR-2 Steam & Electric and HPR-2XW Steam & Electric Series

- **Standard Block, Steam**: 1/8" FNPT Sample In, 1/4" FNPT Out
- **Standard Block, Electric**: 1/8" FNPT Sample In, 1/4" FNPT Out
- **Low Volume with F-6K Filter**: 1/8" FNPT Sample In, 1/4" FNPT Out
- **Extra Outlet @ 270°**
  - **Steam or Electric**: 1/8" FNPT Sample In, 1/4" FNPT Out
  - **Reverse Block, Electric**: 1/8" FNPT Sample In, 1/4" FNPT Out
- **XW Block**: 1/8" FNPT Outlet, STEAM OR ELECTRIC
- **Removeable Filter (XW)**
  - **Side View**: 1/8" FNPT Sample In, 1/4" FNPT Out
  - **Bottom View**: 1/8" FNPT Sample In
1/8" FNPT
SAMPLE IN

LOW VOLUME EXTRA OUTLET WITH F-6K
STEAM OR ELECTRIC

1/4" FNPT
OUT

F-6K FILTER

BOTTOM VIEW

SIDEB VIEW

1/8" FNPT
SAMPLE IN

LOW VOLUME WITHOUT F-6K
STEAM OR ELECTRIC

1/4" FNPT
OUT

F-6K FILTER

BOTTOM VIEW

REMovable FILTER (XW)

SIDE VIEW

1/8" FNPT
SAMPLE IN

LOW VOLUME XW WITH F-6K
STEAM OR ELECTRIC

1/4" FNPT
OUT

F-6K FILTER

BOTTOM VIEW

FRONT VIEW

1/8" FNPT
SAMPLE IN

LOW VOLUME REVERSE
BLOCK WITH F-6K, ELECTRIC

1/4" FNPT
OUT

F-6K FILTER

BOTTOM VIEW
Porting Configurations (Pressure Regulator Body)
for HPR-2 Steam & Electric, HPR-2XW Steam & Electric Series and HBP Steam & Electric.

Location of ports from top view. Arrow pointing toward body is inlet. Arrow pointing away from body is outlet.
HPR-2 A Style Porting Configuration

- Standard 1/8" FNPT inlet on heater block
- Front view
- Standard 1/4" FNPT outlet @ 270° on heater block
- Top view
- Centerline of 55° and 125° ports
- 1/4" FNPT outlet port 55°
- 1/4" FNPT outlet port 125°
- 1/4" FNPT outlet port 0°
- 1/4" FNPT outlet port 90°

HPR-2 B Style Porting Configuration

- Standard 1/8" FNPT inlet on heater block
- Front view
- Standard 1/4" FNPT outlet @ 270° on heater block
- Top view
- Centerline of 0° and 90° ports
- Standard 1/4" FNPT outlet @ 270° on heater block
- 2.75
HPR-2 P Style Porting Configuration

HPR-2 V Style Porting Configuration
HPR-2 Y Style Porting Configuration

- 1/4" FNPT OUTLET PORT
- CENTERLINE OF 90° PORT
- STANDARD 1/4" FNPT OUTLET @ 270° ON HEATER BLOCK

HPR-2 Z Style Porting Configuration

- STANDARD 1/8" FNPT INLET ON HEATER BLOCK
- 1/4" FNPT OUTLET PORT
- CENTERLINE OF 90° PORT
- STANDARD 1/4" FNPT OUTLET @ 270° ON HEATER BLOCK
Porting Configurations for MV-2 Series

Location of ports from top view. Arrow pointing toward body is inlet. Arrow pointing away from body is outlet.
CV2 Porting Configurations

Arrow pointing toward body is inlet. Arrow pointing away from body is outlet.

90° ports are standard inlet and outlet ports, see graphic view.

REFERENCE CLOCK

\[
\begin{align*}
270° \\
180° & \quad 0° \\
90° 
\end{align*}
\]

LOCATION OF PORTS FROM TOP OF SECOND STAGE
CV2 Porting Configurations
Porting Configurations for DH2 Steam & Electric Series

- Arrow pointing toward body is inlet.
- Arrow pointing away from body is outlet.

*Not recommended for use with gauge on electrically heated units due to conduit location.

"A" style porting has one inlet and one outlet port. All other porting styles provide additional ports located as shown.

0° heat exchange tube

270°

Location of ports viewing from top of Regulator "A"

Location of ports viewing from top of Regulator "A"
We specialize in small bore instrumentation products up to 2” that deliver benchmark performance quality & safety; provide the broadest array of superior alloy offerings in the market; decades of proven success in a wide range of industries; a roster of “who’s who” customers & projects globally; original “Best Solution” engineering & designs; and are focused on continuous improvement in all aspects of our business.