

## 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.



pressure regulators

### 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

CONSTRUCTION	316L stainless steel
OUTLET PRESSURES	0-10, 0-25, 0-50, 0-100, 0-250, 0-500, 0-750, and 0-1000 psig
INLET PRESSURE	up to 6000 psig at 380° F (193° C)
OPERATING TEMPERATURE	up to 550° F (285° C)
C <sub>v</sub> COEFFICIENTS	0.06, 0.025, 0.2
INLET CONNECTIONS	1/8" FNPT
OUTLET CONNECTIONS	1/4" FNPT

### 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.

# HPR-2 Series

## How to Order

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)

Standard items in bold

**H2 - 1 Z 5 5 Q 3 C 1 1 1 4**

### 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 page 32&33

### TEMPERATURE RANGE / HEATING TYPE

- 5** **Steam**

### HEATER WATTAGE

- 5** **Steam**

### SEAT MATERIAL

- A** Tefzel®
- B** CF PTFE
- H** PCTFE (formerly Kel-F®)
- 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)
- O** 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

- 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)

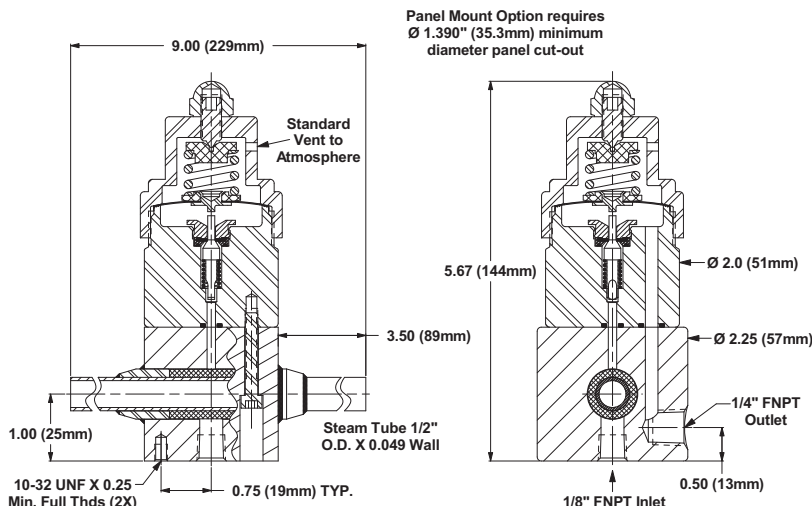
SEAT MATERIAL	MAXIMUM PRESSURE	@	MAXIMUM OPERATING INLET PRESSURE
	Up to 175° F (80° C)	@	3600 psig (24.82 MPa)
	176° F to 300° F (80° C to 148° C)	@	1000 psig (6.90 MPa)
Tefzel® & CF PTFE	301° F to 380° F (148° C to 193° C)	@	400 psig (2.76 MPa)
PCTFE (formerly Kel-F®)	Up to 380° F (193° C)	@	3600 psig (24.82 MPa)
PEEK™	Up to 380° F (193° C)	@	3600 psig (24.82 MPa)

### HPR-2 Steam 1-piece Assembly

(Integral heater block and regulator)

SEAT MATERIAL	MAXIMUM PRESSURE	@	MAXIMUM OPERATING INLET PRESSURE
	Up to 175° F (80° C)	@	3600 psig (24.82 MPa)
	176° F to 300° F (80° C to 148° C)	@	1000 psig (6.90 MPa)
Tefzel® & CF PTFE	301° F to 380° F (148° C to 193° C)	@	400 psig (2.76 MPa)
PCTFE (formerly Kel-F®)	Up to 380° F (193° C)	@	3600 psig (24.82 MPa)
PEEK™	Up to 380° F (193° C)	@	6000 psig (24.82 MPa)

## Outline & Mounting Dimensions



## HPR-2 Series

Electrically Heated Regulators

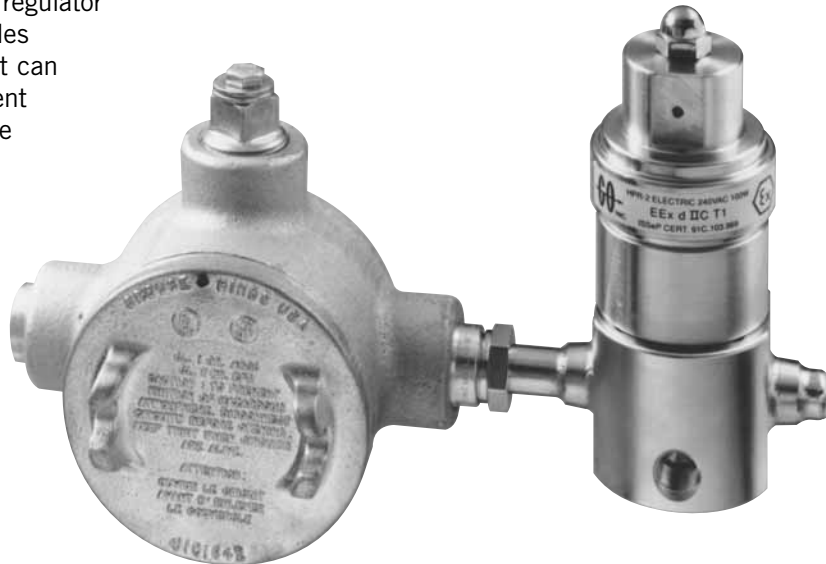
### Introduction

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 and proportional controller. These features enable the unit to boast a T3 rating with 150 watts of power.



pressure regulators

### 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

<b>CONSTRUCTION</b>	316L stainless steel
<b>OUTLET PRESSURES</b>	0-10, 0-25, 0-50, 0-100, 0-250, 0-500, 0-750, and 0-1000 psig
<b>INLET PRESSURE</b>	up to 6000 psig at 380° F (193° C)
<b>HEATING CAPACITY RANGES (IN WATTS)</b>	40, 50, 100, 150, 200 and 250
<b>C<sub>v</sub> COEFFICIENTS</b>	0.06, 0.025, 0.2
<b>CERTIFICATIONS</b>	CSA certification # LR-82566-5 ATEX Directive 94/9/EC 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 240VAC
- Optional TCO heating cartridge and proportional controller
- INCONEL® diaphragm standard

# HPR-2 Series

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)

## How to Order

Standard items in bold

**H2 - 4 Z 3 3 H 3 G 4 1 4 7**

### 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 page 32-33

### TEMP. RANGE/HEATING TYPE

- 1 55° F–85° F
- 2 75° F–175° F
- 3 130° F–300° F
- 4 260° F–380° F
- 8 No electronics

### HEATER WATTAGE

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

### SEAT MATERIAL

- A Tefzel®
- B CF PTFE
- H PCTFE (formerly Kel-F®)
- 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 **240 VAC**
- 5 No electronics
- 8 Proportional 120 VAC
- 9 Proportional 240 VAC

### 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 Electric 2-piece Assembly

(Heater block and regulator body separate)

SEAT MATERIAL	MAXIMUM PRESSURE	@	MAXIMUM OPERATING INLET PRESSURE
Tefzel® & CF PTFE	Up to 175° F (80° C)	@	3600 psig (24.82 MPa)
	176° F to 300° F (80° C to 148° C)	@	1000 psig (6.90 MPa)
	301° F to 380° F (148° C to 193° C)	@	400 psig (2.76 MPa)
PCTFE (formerly Kel-F®)	Up to 380° F (193° C)	@	3600 psig (24.82 MPa)
PEEK™	Up to 380° F (193° C)	@	3600 psig (24.82 MPa)

### HPR-2 Electric 1-piece Assembly

(Integral heater block and regulator)

SEAT MATERIAL	MAXIMUM PRESSURE	@	MAXIMUM OPERATING INLET PRESSURE
Tefzel® & CF PTFE	Up to 175° F (80° C)	@	3600 psig (24.82 MPa)
	176° F to 300° F (80° C to 148° C)	@	1000 psig (6.90 MPa)
	301° F to 380° F (148° C to 193° C)	@	400 psig (2.76 MPa)
PCTFE (formerly Kel-F®)	Up to 380° F (193° C)	@	3600 psig (24.82 MPa)
PEEK™	Up to 380° F (193° C)	@	6000 psig (24.82 MPa)

# HPR-2 Series

## Outline & Mounting Dimensions

