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. We recommend that the regulators will be serviced every 5 Years after first installation.

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.

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 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.

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 550° F (285° C)</td>
</tr>
<tr>
<td>Cv Coefficients</td>
<td>0.06, 0.025, 0.2</td>
</tr>
<tr>
<td>Inlet Connections</td>
<td>¼” FNPT</td>
</tr>
<tr>
<td>Outlet Connections</td>
<td>¼” FNPT</td>
</tr>
</tbody>
</table>
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 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)
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**

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)

**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 PRESSURE</th>
<th>MAXIMUM OPERATING INLET PRESSURE</th>
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<tr>
<td>Tefzel® &amp; CF PTFE</td>
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</table>

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

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<th>SEAT MATERIAL</th>
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<td>PEEK™</td>
<td>Up to 380° F (193° C)</td>
<td>3600 psig (24.82 MPa)</td>
</tr>
</tbody>
</table>

**Outline & Mounting Dimensions**

1.00 (25mm) Min. Full Thds (2X)

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

0.75 (19mm) TYP.

9.00 (229mm) Standard Vent to Atmosphere

1.00 (25mm) Min. Full Thds (2X)

3.50 (89mm)

10-32 UNF X 0.25 Min. Full Thds (2X)

0.60 (15mm)

5.67 (144mm)

2.57 (65mm)

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

0.50 (13mm) 1/8” FNPT Outlet

1/4” FNPT Inlet

To Order, contact your local Distributor Link below:
www.soreg.com/distributor/index.htm

Verify that your chosen part number is valid using the GO Wizards at
www.soreg.com/products/matrix/index.htm

NOTE: Contact the factory for any additional requirements.
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.

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) |
| HEATING CAPACITY RANGES (IN WATTS) | 40, 50, 100, 150, 200 and 250 |
| CV COEFFICIENTS | 0.06, 0.025, 0.2 |
| CERTIFICATIONS | CSA certification # LR-82566-5
TML103ATEX11001X
ATEX Directive 94/9/EC |

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

**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 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

**NOTE: Contact the factory for any additional requirements.**

### 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)

### Maximum Temperature & Operating Inlet Pressures

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

<table>
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<tr>
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#### HPR-2 Electric 1-piece Assembly
(Integral heater block and regulator)

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### Maximum Temperature & Operating Inlet Pressures

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<td>PEEK™</td>
<td>Up to 380° F (193° C)</td>
<td>3600 psig (24.82 MPa)</td>
</tr>
</tbody>
</table>
HPR-2 Series

Outline & Mounting Dimensions

- **1/8" FNPT Inlet**
- **1/4" FNPT Outlet**
- Ø 2.24 (57mm)
- Ø 2.0 (51mm)
- 0.50 (13mm) on 4.29" (109mm) BC
- Ø 0.30" (7.6mm) on 4.29" (109mm) BC
- 10-32 UNF X 0.25
- Min. Full Thds (2X)
- 5.67 (144mm)
- 6.56 (167mm)
- 11.3 (287mm)

**STANDARD VENT TO ATMOSPHERE**
HPR-2XW Series
Steam 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 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>
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</tr>
<tr>
<td>OPERATING TEMPERATURE</td>
<td>up to 550° F (285° C)</td>
</tr>
<tr>
<td>Cv COEFFICIENTS</td>
<td>0.06, 0.025, 0.2</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>

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
How to Order

**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 CONFIGURATIONS**

Z Standard
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® 81)
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 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 top works

**HEATER BLOCK PORTING**

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

**HEATER BLOCK TYPE**

2. Steam, HPR-2XW

**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
W. 0–750 psig
K. 0–1000 psig (BP-6 topworks)

### 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 Pressure</th>
<th>Maximum Operating Inlet Pressure</th>
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<tbody>
<tr>
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</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>
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#### HPR-2XW Steam 1-piece Assembly
(Integral heater block and regulator)

<table>
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<tr>
<th>Seat Material</th>
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NOTE: Contact the factory for any additional requirements.

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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
HPR-2XW Series

Outline & Mounting Dimensions

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

Panel Mount Option

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

10-32 UNF X 0.25 Min. Full Thds (2X)

Standard Vent to Atmosphere

Weight: 4.0 lbs (1.81 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 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 and proportional controller. These features enable the unit to boast a T3 rating with 150 watts of power.

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

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<td>CV COEFFICIENTS</td>
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<tr>
<td>CERTIFICATIONS</td>
<td>CSA certification # LR-82566-5</td>
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<tr>
<td></td>
<td>ATEX Directive 94/9/EC</td>
</tr>
<tr>
<td></td>
<td>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 240VAC
- Optional TCO heating cartridge and proportional controller
- INCONEL® diaphragm standard
HPR-2XW 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 page 32-33

**TEMPERATURE RANGE / HEATING TYPE**
1  55° F to 85° F
2  75° F to 175° F
3  130° F to 300° F
4  260° F to 380° F
5  No electronics

**HEATER WATTAGE**
1  40W
2  50W
3  100W
4  150W
5  200W
6  250W
7  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.)
6  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 top works

**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  240 VAC, HPR-2XW
0  Proportional 120 VAC, HPR-2XW
A  Proportional 240 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)

**NOTE:** Contact the factory for any additional requirements.

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 PRESSURE</th>
<th>MAXIMUM OPERATING INLET PRESSURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tefzel® &amp; CF PTFE</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>1000 psig (6.90 MPa)</td>
<td></td>
</tr>
<tr>
<td>301° F to 380° F (148° C to 193° C)</td>
<td>400 psig (2.76 MPa)</td>
<td></td>
</tr>
<tr>
<td>PCTFE (formerly Kel-F®)</td>
<td>Up to 380° F (193° C)</td>
<td>3600 psig (24.82 MPa)</td>
</tr>
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<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 PRESSURE</th>
<th>MAXIMUM OPERATING INLET PRESSURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tefzel® &amp; CF PTFE</td>
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<td>3600 psig (24.82 MPa)</td>
</tr>
<tr>
<td>PEEK™</td>
<td>Up to 380° F (193° C)</td>
<td>6000 psig (24.82 MPa)</td>
</tr>
</tbody>
</table>
HPR-2XW Series

Maximum Temperature & Operating Inlet Pressures

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

Weight: 8.7 lbs (3.95 kg)
CV 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 CV 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 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.

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 550°F (285°C)</td>
</tr>
<tr>
<td>HEATING CAPACITY</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>ATEX Directive 94/9/EC 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 240VAC
- Optional TCO heating cartridge and proportional controller
- INCONEL® diaphragm standard
CV Series Cylinder Vaporizer

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**
- A Standard

**SEAT MATERIAL (1ST STAGE)**
- A Tefzel®
- B CF PTFE
- H PCTFE (formerly Kel-F® 81)
- Q PEEK™

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

**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 CF PTFE
- C Polyimide
- H PCTFE (formerly Kel-F® 81)
- Q PEEK™

**FLOW COEFFICIENT (2ND STAGE)**
- 3 0.06
- 2 0.2
- 3 0.25

**OPTIONS (NOT REQUIRED)**
- B EB5 cleaning
- D Helium leak test
- F Pressure test certificate
- G CMTR

**VOLTAGE**
- 1 120 VAC
- 2 240 VAC
- 6 No electronics

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

**CONTROLLER TYPE**
- 1 On/Off
- 2 Proportional
- 6 No electronics

**HEATER WATTAGE**
- 1 40W
- 2 50W
- 3 100W
- 4 150W
- 7 200W
- 9 250W
- 6 No electronics

**TEMPERATURE RANGE**
- 1 55° F to 85° F
- 2 75° F to 175° F
- 3 130° F to 300° F
- 4 260° F to 380° F
- 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:** Contact the factory for any additional requirements.

---

**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; CF 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 (formerly Kel-F®)</td>
<td>Up to 380°F (193°C) @</td>
<td>3600 psig (24.82 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>
CV Series Cylinder Vaporizer

Outline and Mounting Dimensions

- **1/8” FNPT Inlet**
- **1/8” FNPT Outlet**
- **Ø 2.0 (51mm)**
- **1.51 (38mm)**
- **4.68 (119mm)**
- **6.78 (172mm)**
- **11.3 (287mm)**
- **3.39 (86mm) Typ.**
- **Ø 2.24 (57mm)**
- **Ø 0.30” (7.6mm) on 4.29” (109mm) BC**
- **Standard Vent to Atmosphere**
- **First Stage**
- **Second Stage**

---

**Note:** All dimensions are in millimeters unless specified otherwise.
CV 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

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 550° F (285° C) |
| Cv Coefficients | 0.06, 0.025, 0.2 |

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
CV Series Cylinder Vaporizer

How to Order

Standard items in bold

<table>
<thead>
<tr>
<th>Options (not required)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B EB5 cleaning</td>
</tr>
<tr>
<td>D Helium leak test</td>
</tr>
<tr>
<td>E Pressure test certificate</td>
</tr>
<tr>
<td>F Certificate of Conformity</td>
</tr>
<tr>
<td>G CMTR</td>
</tr>
</tbody>
</table>

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 Pressure</th>
<th>Maximum Operating Inlet Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tefzel®</strong></td>
<td>Up to 175°F (80°C)</td>
<td>@ 3600 psig (24.82 MPa)</td>
</tr>
<tr>
<td>&amp; CF PTFE</td>
<td>176°F to 300°F</td>
<td>@ 1000 psig (6.90 MPa)</td>
</tr>
<tr>
<td></td>
<td>(80°C to 148°C)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>301°F to 380°F</td>
<td>@ 400 psig (2.76 MPa)</td>
</tr>
<tr>
<td></td>
<td>(148°C to 193°C)</td>
<td></td>
</tr>
<tr>
<td><strong>PCTFE</strong> (formerly Kel-F®)</td>
<td>Up to 380°F (193°C)</td>
<td>@ 3600 psig (24.82 MPa)</td>
</tr>
<tr>
<td><strong>PEEK™</strong></td>
<td>Up to 380°F (193°C)</td>
<td>@ 6000 psig (41.37 MPa)</td>
</tr>
</tbody>
</table>
CV Series Cylinder Vaporizer

Outline and Mounting Dimensions

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

SECOND STAGE

First Stage

Steam Tube 1/2"

Standard Vent to Atmosphere

1/8" FNPT Inlet

0.74 (19mm)

1/8" FNPT Outlet

0.74 (19mm)

Ø 2.24 (57mm)

Ø 2.0 (51mm)

3.39 (86mm) Typ.

6.78 (172mm)

9.0 (229mm)
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 and proportional controller. These features enable the unit to boast a T3 rating with 150 watts of power.

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>ATEX Directive 94/9/EC Certification # TRL03ATEX11001X</td>
</tr>
<tr>
<td>Features &amp; Benefits</td>
<td>Optional HASTELLOY® C-276 and MONEL®</td>
</tr>
<tr>
<td></td>
<td>Electropolished body with better than 25 Ra finish in diaphragm cavity for an optimal sealing surface</td>
</tr>
<tr>
<td></td>
<td>Bubble-tight shutoff</td>
</tr>
<tr>
<td></td>
<td>Available in 120VAC or 240VAC</td>
</tr>
<tr>
<td></td>
<td>Optional TCO heating cartridge and proportional controller</td>
</tr>
<tr>
<td></td>
<td>INCONEL® diaphragm standard</td>
</tr>
</tbody>
</table>
DHR Series

How to Order

Standard items in bold

<table>
<thead>
<tr>
<th>DHR</th>
<th>A</th>
<th>C</th>
<th>3</th>
<th>I</th>
<th>1</th>
<th>C</th>
<th>3</th>
<th>G</th>
<th>1</th>
<th>4</th>
<th>1</th>
<th>1</th>
<th>1</th>
</tr>
</thead>
</table>

**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**
- A Standard
  - For more configurations, see page 35

**SEAT MATERIAL (REGULATOR A)**
- A Tefzel®
- B CF PTFE
- H PCTFE (formerly Kel-F® 81)
- Q PEEK™

**FLOW COEFFICIENT (REGULATOR A)**
- 3 0.06
- 5 0.2
- C 0.025

**OUTPUT 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
- W 0–750 psig
- K 0–1000 psig (BP-6 Top Works)

**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

**SEAT MATERIAL (REGULATOR B)**
- A Tefzel®
- B CF PTFE
- H PCTFE (formerly Kel-F® 81)
- Q PEEK™

**FLOW COEFFICIENT (REGULATOR B)**
- 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

**VOLTAGE**
- 1 120 VAC
- 2 240 VAC
- 6 No electronics

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

**CONTROLLER TYPE**
- 1 On/Off
- 2 Proportional
- 6 No electronics

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

**TEMPERATURE RANGE**
- 1 55° F to 85° F
- 2 75° F to 175° F
- 3 130° F to 300° F
- 4 260° F to 380° F
- 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

**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
- W 0–750 psig
- K 0–1000 psig (BP-6 top works)

**NOTE: Contact the factory for any additional requirements.**

Maximum Temperature & Operating Inlet Pressures

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<thead>
<tr>
<th>SEAT MATERIAL</th>
<th>MAXIMUM PRESSURE</th>
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</tr>
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<td>PEEK™</td>
<td>Up to 380° F (193° C)</td>
<td>@</td>
<td>6000 psig (41.37 MPa)</td>
</tr>
</tbody>
</table>
DHR Series

Outline and Mounting Dimensions

1/8" FNPT Outlet
Ø 2.24 (57mm)

1/8" FNPT Outlet
3.39 (86mm)
1.48 (38mm)

1/8" FNPT Outlet
Ø 0.30" (7.6mm) on 4.29" (109mm) BC

Standard Vent to Atmosphere
Ø 2.0 (51mm)

Regulator "A"

Regulator "B"

Standard Vent to Atmosphere

1/8" FNPT Outlet
1/8" FNPT Inlet

3.39 (86mm)
0.74 (19mm)
1.48 (38mm)

1/8" FNPT Outlet
1/8" FNPT Inlet
DHR 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

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<td>OUTLET PRESSURES</td>
<td>0–10, 0–25, 0–50, 0–100, 0–250, 0–500, 0–750, and 0-1000 psig</td>
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<tr>
<td>OPERATING TEMPERATURE</td>
<td>up to 550° F (285° C)</td>
</tr>
<tr>
<td>Cv COEFFICIENTS</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
DHR Series

How to Order

Standard items in bold

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

Regulator A

Regulator B

**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**

A Standard

For more configurations, see page 35.

**SEAT MATERIAL (REGULATOR A)**

A Tefzel®

B CF PTFE

H PCTFE (formerly Kel-F® 81)

Q PEEK™

**FLOW COEFFICIENT (REGULATOR A)**

3 0.06

5 0.2

C 0.025

**OUTPUT 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

W 0–750 psig

K 0–1000 psig (BP-6 topworks)

**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

**SEAT MATERIAL (REGULATOR B)**

A Tefzel®

B CF PTFE

H PCTFE (formerly Kel-F® 81)

Q PEEK™

**FLOW COEFFICIENT (REGULATOR B)**

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

**VOLTAGE**

5 Steam

**THERMISTOR TYPE**

5 Steam

**CONTROLLER TYPE**

5 Steam

**HEATER WATTAGE**

5 Steam

**TEMPERATURE RANGE**

5 Steam

**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

**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

W 0–750 psig

K 0–1000 psig

(BP-6 topworks)

Maximum Temperature & Operating Inlet Pressures

<table>
<thead>
<tr>
<th>SEAT MATERIAL</th>
<th>MAXIMUM PRESSURE</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>&amp; CF PTFE</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 (formerly Kel-F®)</td>
<td>Up to 380°F (193°C)</td>
<td>3600 psig (24.82 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>

NOTE: Contact the factory for any additional requirements.
DHR Series
Outline and Mounting Dimensions

Regulator “A”
- Ø 2.24 (57mm)
- 1/8” FNPT Outlet
- Regulator “B”
- Ø 2.24 (57mm)
- 1/8” FNPT Outlet

Steam Tube 1/2”
O.D. X 0.049 Wall

Standard Vent to Atmosphere

6.78 (172mm)
9.0 (229mm)

1/8” FNPT Outlet
Ø 2.24 (57mm)
1/8” FNPT Inlet

1/8” FNPT Outlet
1/8” FNPT Inlet

0.74 (19mm)
1.48 (38mm)
3.39 (86mm)
The MV-1 Series Miniature Vaporizing Regulator is one of the smallest envelopes in the industry. Weighing in at a scant 0.86 pounds, the MV-1 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-1 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-1 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 and proportional controller
### MV-1 Series

#### How to Order

**Standard items in bold**

**BODY MATERIAL**

- 1 316L stainless steel
- 4 MONEL®

**PORT CONFIGURATION**

- A Standard
  
  For more configurations, see page 33

**PORT TYPE**

- 0 1/8” FNPT (all ports)
- A 1/16” FNPT (all ports)
- B 1/8” FNPT inlets; 1/16” FNPT outlets

**TEMPERATURE RANGE**

- 1 55° F to 85° F
- 2 75° F to 175° F
- 3 130° F to 300° F
- 4 260° F to 380° F
- 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 (formerly Kel-F® 81)
- 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 PRESSURE</th>
<th>@</th>
<th>MAXIMUM OPERATING INLET PRESSURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tefzel®</td>
<td>Up to 175° F (80° C)</td>
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<td>3600 psig (24.82 MPa)</td>
</tr>
<tr>
<td></td>
<td>176° F to 300° F (80° C to 148° C)</td>
<td>@</td>
<td>1000 psig (6.90 MPa)</td>
</tr>
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<td></td>
<td>301° F to 380° F (148° C to 193° C)</td>
<td>@</td>
<td>400 psig (2.76 MPa)</td>
</tr>
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<td>3600 psig (24.82 MPa)</td>
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<td>PEEK™</td>
<td>Up to 380° F (193° C)</td>
<td>@</td>
<td>3600 psig (24.82 MPa)</td>
</tr>
</tbody>
</table>

**NOTE:** Contact the factory for any additional requirements.
Panel Mount option requires 1.39 (35.3mm) minimum diameter panel cut out

Standard Vent to Atmosphere

Weight = 0.86 lbs (.39 kg)
**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 with 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 and relief valve
How to Order

Standard items in bold

**HXR**

**BODY MATERIAL**
1 316L stainless steel

**OPTIONAL PORTING TYPES**
1 ¼˝ FNPT

**SURFACE FINISH OF DIAPHRAGM CAVITY**
1 < 25 Ra

**SEAT MATERIAL**
A Tefzel®
C Polyimide

**MOUNTING THREAD**
1 ¾˝ MNPT

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

**INSERTION LENGTH**
0 No extension (3.75” ins. length)
1 Short extension (8.05” ins. length)
2 Long extension (11.05” ins. length)

**CAP ASSEMBLY**
1 Stainless steel

**DIAPHRAGM LINER / BACKING**
6 Tefzel® ring / stainless steel

**DIAPHRAGM TYPE**
1 Standard

**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

**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®</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**

<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>
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.

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
- Unique spiral wrapped heat exchange element provides up to 100 square inches of heat transfer area.
- Available in 120VAC or 240VAC and steam-heated
- Optional TCO heating cartridge and proportional controller
- INCONEL® diaphragm standard

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 6000 psig at 380° F (193° C)</td>
</tr>
<tr>
<td>OPERATING TEMPERATURE</td>
<td>up to 550° F (285° C)</td>
</tr>
<tr>
<td>INLET CONNECTIONS</td>
<td>¼˝ FNPT</td>
</tr>
<tr>
<td>OUTLET CONNECTIONS</td>
<td>¼˝ FNPT</td>
</tr>
</tbody>
</table>

<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 PRESSURES</td>
<td>up to 6000 psig at 380° F (193° C)</td>
</tr>
<tr>
<td>HEATING CAPACITY RANGE (IN WATTS)</td>
<td>40, 50, 100, and 150</td>
</tr>
<tr>
<td>CERTIFICATIONS</td>
<td>CSA certification # LR-82566-5, ATEX Directive 94/9/EC, Certification # TRL03ATEX11001X</td>
</tr>
</tbody>
</table>
# LNG Series

## How to Order

### Standard items in bold

### LNG – 102830

#### Basic Part Number

<table>
<thead>
<tr>
<th>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>Seat Material</th>
<th>Maximum Inlet Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Tefzel®</td>
<td>Up to 175° F (80° C)</td>
</tr>
<tr>
<td>B CF PTFE</td>
<td>Up to 380° F (193° C)</td>
</tr>
<tr>
<td>PCTFE (formerly Kel-F®)</td>
<td>Up to 380° F (193° C)</td>
</tr>
<tr>
<td>Q PEEK™</td>
<td>Up to 380° F (193° C)</td>
</tr>
</tbody>
</table>

#### Wattage

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

### Options (Not Required)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>EBS cleaning</td>
</tr>
<tr>
<td>D</td>
<td>Helium leak test</td>
</tr>
<tr>
<td>E</td>
<td>Pressure test certificate</td>
</tr>
<tr>
<td>F</td>
<td>Certificate of Conformity</td>
</tr>
<tr>
<td>G</td>
<td>CMTR</td>
</tr>
</tbody>
</table>

### Thermistor Type

<table>
<thead>
<tr>
<th>Thermistor Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Thermally protected (TCO)</td>
</tr>
<tr>
<td>2</td>
<td>Non-thermally protected</td>
</tr>
<tr>
<td>5</td>
<td>Steam</td>
</tr>
</tbody>
</table>

### Controller Type

<table>
<thead>
<tr>
<th>Controller Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>On/Off</td>
</tr>
<tr>
<td>2</td>
<td>Proportional</td>
</tr>
<tr>
<td>5</td>
<td>Steam</td>
</tr>
</tbody>
</table>

### Configuration

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Standard enclosure (painted steel)</td>
</tr>
<tr>
<td>2</td>
<td>Stainless steel enclosure</td>
</tr>
<tr>
<td>3</td>
<td>Standard enclosure, all ¼˝ tube</td>
</tr>
<tr>
<td>4</td>
<td>Stainless steel enclosure, all ¼˝ tube</td>
</tr>
<tr>
<td>5</td>
<td>Standard enclosure, ¼˝ tube bulkhead</td>
</tr>
<tr>
<td>6</td>
<td>Stainless steel enclosure, ¼˝ tube bulkhead</td>
</tr>
</tbody>
</table>

### Heater Block Type

<table>
<thead>
<tr>
<th>Heater Block Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Steam</td>
</tr>
<tr>
<td>2</td>
<td>Steam, HPR-2XW</td>
</tr>
<tr>
<td>3</td>
<td>120 VAC</td>
</tr>
<tr>
<td>4</td>
<td>240 VAC</td>
</tr>
<tr>
<td>5</td>
<td>120 VAC, HPR-2XW</td>
</tr>
<tr>
<td>7</td>
<td>240 VAC, HPR-2XW</td>
</tr>
</tbody>
</table>

### Temperature Range

<table>
<thead>
<tr>
<th>Temperature Range</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>55° F to 85° F</td>
</tr>
<tr>
<td>2</td>
<td>75° F to 175° F</td>
</tr>
<tr>
<td>3</td>
<td>130° F to 300° F</td>
</tr>
<tr>
<td>4</td>
<td>260° F to 380° F</td>
</tr>
<tr>
<td>5</td>
<td>Steam heated</td>
</tr>
</tbody>
</table>

### Maximum Temperature & Operating Inlet Pressures

#### HPR-2 Electric or Steam 2-piece Assembly

(Hi-temperature block and regulator body separate)

<table>
<thead>
<tr>
<th>Seat Material</th>
<th>Maximum Pressure</th>
<th>Maximum Operating Inlet Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tefzel® &amp; CF 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>
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<td>301° F to 380° F (148° C to 193° C)</td>
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<tr>
<td>PCTFE (formerly Kel-F®)</td>
<td>Up to 380° F (193° C)</td>
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<td>PEEK™</td>
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<td>@ 3600 psig (24.82 MPa)</td>
</tr>
</tbody>
</table>

#### HPR-2 Electric or Steam 1-piece Assembly

(Integral heater block and regulator)

<table>
<thead>
<tr>
<th>Seat Material</th>
<th>Maximum Pressure</th>
<th>Maximum Operating Inlet Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tefzel® &amp; CF PTFE</td>
<td>Up to 175° F (80° C)</td>
<td>@ 3600 psig (24.82 MPa)</td>
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<td></td>
<td>176° F to 300° F (80° C to 148° C)</td>
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<td></td>
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<td>Up to 380° F (193° C)</td>
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</tr>
<tr>
<td>PEEK™</td>
<td>Up to 380° F (193° C)</td>
<td>@ 6000 psig (24.82 MPa)</td>
</tr>
</tbody>
</table>

**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
LNG Series
Outline & Mounting Dimensions
Electrical

Steam
STANDARD 1/8” FNPT INLET ON HEATER BLOCK

STANDARD 1/4” FNPT OUTLET @ 270° ON HEATER BLOCK

PORT REFERENCE AS SEEN FROM TOP VIEW

PORTING STYLES "A" THROUGH "Y" PROVIDE PORTS ON THIS CENTERLINE

STANDARD 1/4” FNPT OUTLET @ 270° ON HEATER BLOCK

STANDARD 1/8” FNPT INLET ON HEATER BLOCK

STANDARD 1/4” FNPT OUTLET @ 270° ON HEATER BLOCK

2.75

STANDARD 1/8” FNPT INLET ON HEATER BLOCK

STANDARD 1/8” FNPT INLET ON HEATER BLOCK

BOTTOM VIEW

TOP VIEW

FRONT VIEW

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

Location of ports from top view. Arrow pointing toward body is inlet. Arrow pointing away from body is outlet.
Location of ports from top view. Arrow pointing toward body is inlet. Arrow pointing away from body is outlet.
Porting Configurations for DHR Steam & Electric Series

Location of ports from to of regulator "A". Arrow pointing toward body is inlet. Arrow pointing away from body is outlet.
Heater Block Configurations
for HPR-2 Steam & Electric and HPR-2XW Steam & Electric Series

- **Standard Block, Steam**
  - Front View: 1/4" FNPT OUT
  - Bottom View: 1/8" FNPT SAMPLE IN

- **Standard Block, Electric**
  - Front View: 1/4" FNPT OUT
  - Bottom View: 1/8" FNPT SAMPLE IN

- **Extra Outlet @ 270°**
  - Front View: 1/4" FNPT OUT
  - Bottom View: 1/8" FNPT SAMPLE IN

- **Reverse Block, Electric**
  - Front View: 1/4" FNPT OUT
  - Bottom View: 1/8" FNPT SAMPLE IN

- **Low Volume with F-6K**
  - Side View: 1/4" FNPT OUT
  - Bottom View: 1/8" FNPT SAMPLE IN

- **XW Block**
  - Side View: 1/4" FNPT OUT
  - Bottom View: 1/8" FNPT SAMPLE IN

- **XW Block (XW)**
  - Side View: 1/4" FNPT OUT
  - Bottom View: 1/8" FNPT SAMPLE IN
1/8" FNPT
SAMPLE IN

1/4" FNPT OUT
F-6K FILTER

SIDE VIEW
BOTTOM VIEW

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

1/8" FNPT
SAMPLE IN

1/4" FNPT OUT
F-6K FILTER

SIDE VIEW
BOTTOM VIEW

LOW VOLUME XW WITH F-6K STEAM OR ELECTRIC

1/8" FNPT
SAMPLE IN

1/4" FNPT OUT
F-6K FILTER

SIDE VIEW
BOTTOM VIEW

LOW VOLUME WITHOUT F-6K STEAM OR ELECTRIC

FRONT VIEW
LOW VOLUME REVERSE BLOCK WITH F-6K, ELECTRIC

REMOVABLE FILTER (XW)
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