



## A single-stage heated regulator with robust heat transfer technology!

The Model GHR™ is a single stage heated pressure regulator designed specifically for use in gas analytical systems. The GHR™ prevents condensation of the sample gas from occurring as a result of Joule-Thomson (JT) cooling during the pressure reduction process of high pressure and high dew point gases or due to low operating or ambient temperature conditions.

The GHR™ is designed with a long, spiral flow path including pre and post regulation heat exchangers that provide efficient heat transfer which preserves sample integrity. The first heat exchanger preheats the gas sample above its dew point temperature; preventing condensation during pressure reduction. The second heat exchanger warms the gas sample after pressure reduction; preventing condensation as the gas enters the sample transport system.

The GHR™ can be heated using either an electrical cartridge heater with proportional temperature controller or a self-limiting block heater. Both have specific benefits and require a direct power connection. The proportional temperature controller allows for precise temperature control using a digital temperature readout and is protected with a backup thermal cutoff. The self-limiting block heater provides a simple and reliable option that prevents temperature overload and is designed to be mounted in small enclosures or densely populated cabinets.



Model GHR Shown

### Product Brief

#### Applications

- Continuous gas sampling in any process industry including natural gas, petrochemical, and oil refining

**Not for use with Hydrogen, Helium or Neon**

#### Benefits

- Prevents condensation
- Preserves sample integrity
- Reduces regulator freeze-ups
- Low internal volume assists with faster response time

#### Features

- Quick purging, low volume design
- Piston pressure sensing element
- Pre and post regulation heat exchangers
- 20 micron inlet filter
- Two heating method options:
  - Cartridge heater with proportional temperature controller
  - Self-limiting block heater

### Technical Specifications

<b>Maximum pressure rating</b>	6000 psig (413.7 barg) per criteria of ANSI/ASME B31.3
<b>Outlet pressure range</b>	0-10 psig (0-0.7 barg), 0-25 psig (0-1.7 barg), 0-50 psig (0-3.4 barg), 0-100 psig (0-6.9 barg), 0-250 psig (0-17.2 barg), 0-500 psig (34.5 barg)
<b>Temperature range</b> <small>* Actual limit depends on sealing material chosen. Refer to Temperature Range Comparison Chart.</small>	<b>*Ambient:</b> GHR (CSA): -40 to 300°F (-40 to 149°C) 901-GR: 0 to 145°F (-18 to 63°C) GHR (ATEX): -40 to 140°F (-40 to 60°C) <b>*Process (all models):</b> -40°F to 300°F (-40°F to 149°C) <b>901-GR controller:</b> 95 to 300°F (35 to 149°C) set at 300°F (149°C); backup thermal cutoff opens at 338°F (170°C)
<b>Port sizes</b>	1/4" FNPT
<b>Cv Coefficient</b>	0.023
<b>Maximum flow rate</b>	~10 SLM - Standard Liters per Minute (consider heat transfer limitations)
<b>Wetted materials</b>	<b>Machined parts:</b> 316/316L stainless steel / ISO 15156-3 compliant <b>All other metal parts:</b> stainless steel / ISO 15156-3 compliant <b>Regulator seat material:</b> PFA <b>Seals:</b> User defined
<b>Electrical connection</b>	<b>Conduit (CSA):</b> GHR: 1/2" FNPT 901-GR: 3/4" FNPT <b>Cable OD (ATEX/IECEx):</b> 3/8" (10mm)
<b>Power requirements</b>	<b>GHR:</b> 80W @110/220 VAC or 25W @ 24 VDC <b>901-GR:</b> 200 W @ 110 VAC or 700 W @ 240 VAC
<b>Electrical approval</b>	<b>CSA Certified Assembly:</b> File # 235756; Class 1, Division 1, Groups B, C, & D; T3 <b>ATEX/IECEx Heater Block (Model GHR only):</b> II2G Ex db IIC T3

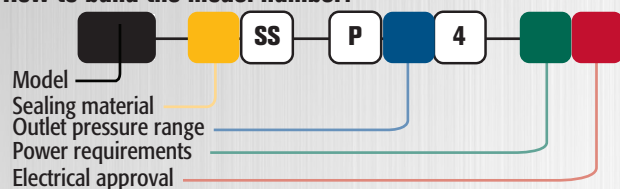


## Model Numbering & Additional Part Numbers

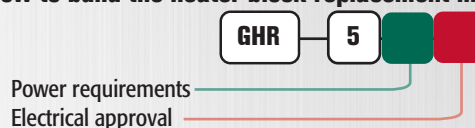
Your model number is determined by your specific needs. Materials of construction must be compatible with process fluid.

Model	GHR = GR with self-limiting block heater		901-GR = GR with temperature controller			
Sealing material	0 = Fluoroelastomer		JW = RGD resistant HNBR		(other materials available upon request)	
Outlet pressure range (psig)	0 = 0-25	1 = 0-50	2 = 0-100	3 = 0-250	4 = 0-500	9 = 0-10
Power requirements	1 = AC power		2 = DC power (not available in Model 901-GR)			
Electrical approval	C = CSA		A = ATEX/IECEX (not available in Model 901-GR)			

### How to build the model number:



### How to build the heater block replacement model number:



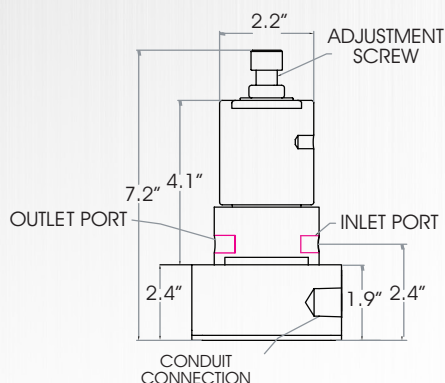
### Spare Parts & Accessories (sold separately)

- Kozy™ Insulated Cover - Part # KZ-10-L (not for enclosures)
- 901 Heater Base & Controller Replacement - Part # 901-00-SS
- Manifold with pressure gauge, ball valve, & relief valve - for ordering information, refer to the Genie® Probe Regulator Accessory Manifold product sheet
- Inlet filter replacement - Part # GHR-5FSS
- Seat & Seal replacement kit - Seat, Valve Stem, Bias Spring & O-Rings

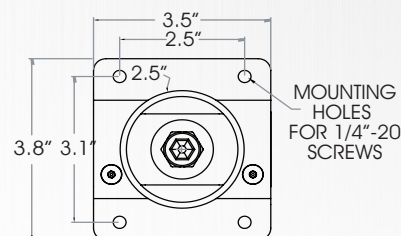
## Dimensions

### GHR

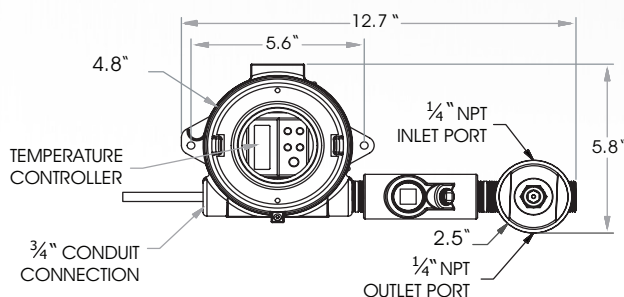
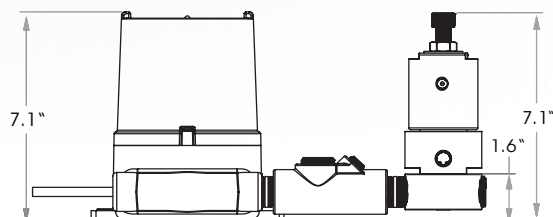
#### Side View



#### Top View



### 901-GR



Analytically Correct™ sample systems, sample conditioning components, and revolutionary gas and liquid sampling technology.



**SOCLEMA**  
Advanced Industrial Sampling

4, rue des Roses - 69280 SAINTE-CONSORCE - France  
 Tel: +33 478 878 945 - [info@soclema.com](mailto:info@soclema.com) - [www.soclema.com](http://www.soclema.com)