

# EX1

## Single Stage Pressure Reducing Regulator



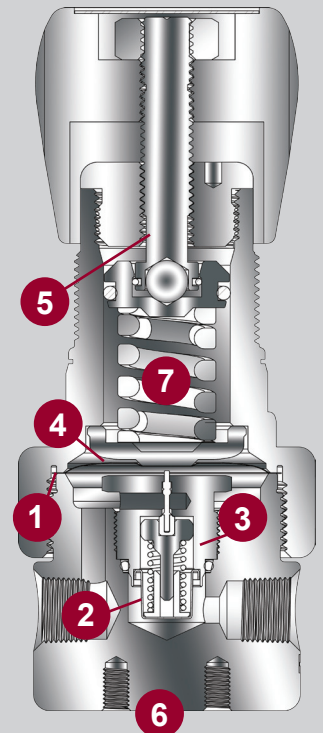
The AURA EX1 is a general purpose regulator designed to provide primary pressure control of gas or liquid for inlets up to 415 bar where minor fluctuations in outlet pressure due to variable inlet pressures are accepted. AURA's encapsulated seat design consolidates the numerous moving internal components of a standard regulator into one single piece, allowing for ease of maintenance and minimizing potential failure points. Protected by a 10-micron 360° filter, the encapsulated seat provides significantly more filtration of impurities than the standard pressed-in disk. The encapsulated seat also filters damaging particles from all inlet ports rather than just the pipeline port. Available with multiple seat materials and orifice sizes, the EX1's capsule ensures optimum performance in any application.

AURA's proprietary machining process yields surface finishes of 4-25 Ra designed to reduce corrosion. With its minimal internal volume, the EX1 also allows less gas to be used while purging. The AURA EX1 is assembled in a Class 100 clean room as a complete assembly with all gauges, fittings, and valves attached. The complete assembly is cleaned for oxygen service and is 100% helium leak checked. Additionally, the EX1 undergoes multiple flow and function tests to ensure the highest level of purity and durability.

Available with Dursan® LS inert and anti-corrosive technology that provides superior corrosive resistance versus exotic metals in highly acidic or caustic applications, the EX1 is the right choice for critical applications.

### EX1 Features

- 1. Metal to metal seals**
  - $1 \times 10^{-9}$  He ccs leak rate
- 2. 10-micron 360° filter**
  - Significantly more filtration of impurities than disk
- 3. Encapsulated seat design**
  - Ease of maintenance
- 4. Dual-surface diaphragm**
  - Extremely sensitive even at lower pressures
- 5. Field access to adjusting screw**
  - Lock pressure setting
- 6. Threaded bonnet and rear mounting holes**
  - Able to panel or surface mount
- 7. Field access to adjusting spring**
  - Change delivery pressure range in the field



# EX1

## Single Stage Pressure Reducing Regulator Technical Data and Product Specifications

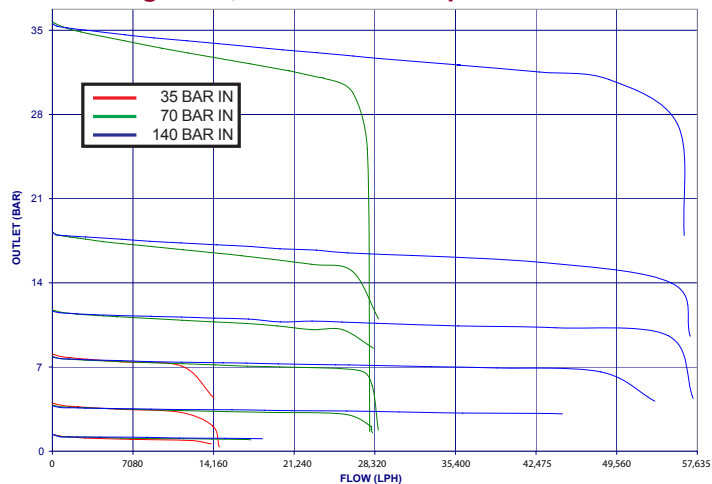
### Materials of Construction

	EX1S	EX1P	EX1C	EX1G
<b>Body</b>	316L stainless steel	316L stainless steel	Chrome-plated brass	Dursan® LS
<b>Bonnet</b>	304 stainless steel	Chrome-plated brass	Chrome-plated brass	Dursan LS
<b>Diaphragm</b>	316L stainless steel	316L stainless steel	316L stainless steel	Dursan LS
<b>Seat</b>	PTFE, PCTFE, PEEK	PTFE, PCTFE	PTFE, PCTFE, PEEK	PTFE, PCTFE, PEEK
<b>10-micron 360° filter</b>	316L stainless steel	316L stainless steel	Copper nickel	Dursan LS
<b>Nozzle</b>	316L stainless steel	316L stainless steel	Brass	Dursan LS
<b>Knob</b>	Anodized aluminum	Polycarbonate	Anodized aluminum	Anodized aluminum

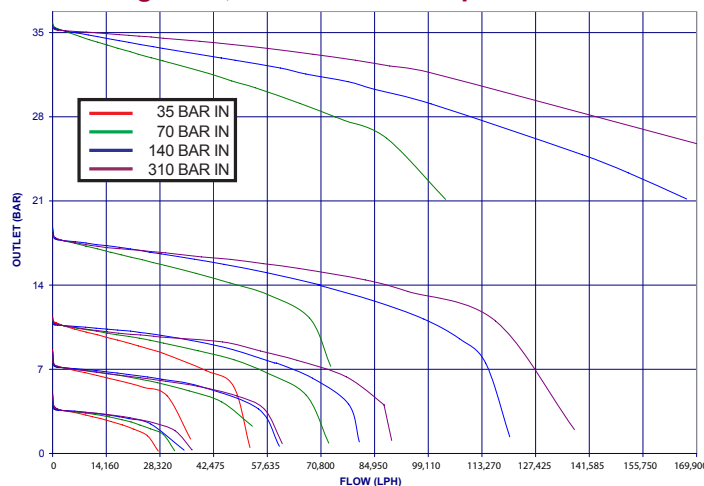
### Functional Specifications

<b>Design Pressure</b>	<ul style="list-style-type: none"> <li>Working pressure: 210 Bar PTFE</li> <li>Working pressure: 380 Bar PCTFE/PEEK</li> <li>Burst pressure: &gt; 4x Working pressure</li> </ul>	<b>Temperature</b>	<ul style="list-style-type: none"> <li>PTFE: -40°C to 60°C (-40°F to 140°F)</li> <li>PCTFE: -40°C to 66°C (-40°F to 150°F)</li> <li>PEEK: -40°C to 135°C (-40°F to 275°F)</li> </ul>
<b>Maximum Inlet Pressure</b>	<ul style="list-style-type: none"> <li>PTFE (210 bar maximum inlet pressure)</li> <li>PCTFE (310 bar maximum inlet pressure)</li> <li>PEEK (415 bar maximum inlet pressure)</li> </ul>	<b>Weight (bare body)</b>	<ul style="list-style-type: none"> <li>1.06 kg (2 lbs. 5.5 oz.)</li> </ul>
<b>Leak Rate</b>	<ul style="list-style-type: none"> <li>External: <math>1 \times 10^{-9}</math> He ccs</li> <li>Seat: <math>1 \times 10^{-7}</math> He ccs</li> </ul>	<b>Gauges (optional)</b>	<ul style="list-style-type: none"> <li>51mm manufactured to ANSI/ASME B40.1</li> </ul>

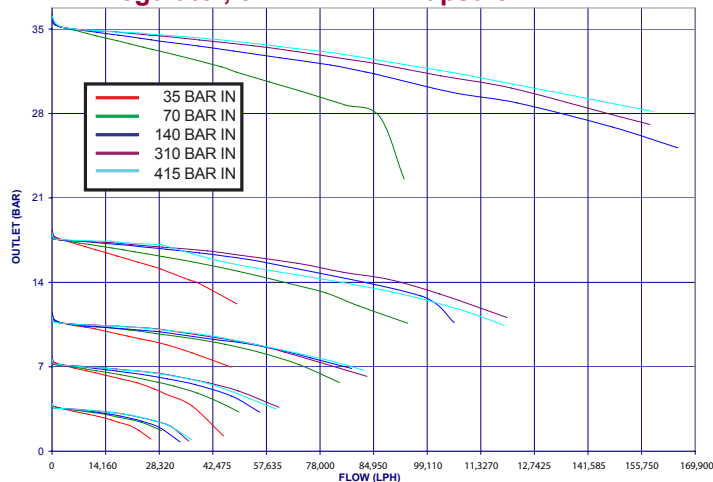
EX1 Regulator, 1.1mm PTFE Capsule



EX1 Regulator, 1.8mm PCTFE Capsule



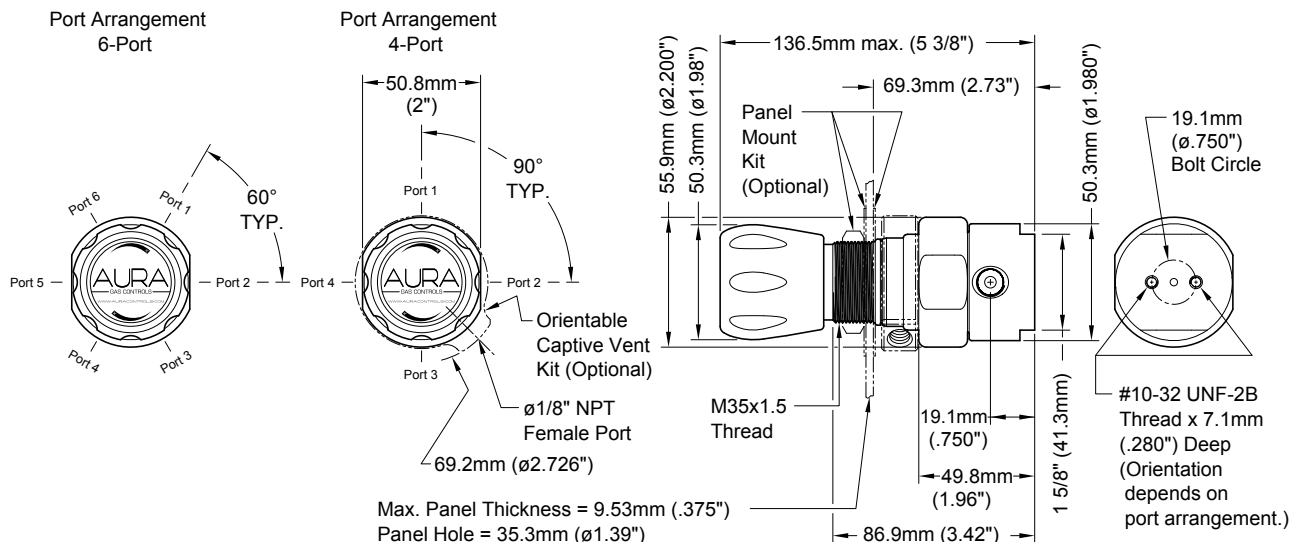
EX1 Regulator, 3.2mm PTFE Capsule



### Each EX1 regulator assembly includes:

- Class 100 cleanroom assembly
- 100% helium leak check
- Cleaning for oxygen service
- 100% function test
- Silicone-free assembly
- Certificate of conformance
- Certificate of cleaning for oxygen service

## Mounting and Installing Information



## Ordering Information

EX1 4 5 6 7 8 -01- 13 14 15 - 16 17 0

### Digit 4 - Material of Construction

S = 316L stainless steel  
 N = Nickel-plated brass  
 C = Chrome-plated brass  
 G = Dursan LS inert and anti-corrosive technology

### Digit 5 - Pressure Range

1 = 0-1 bar  
 2 = 0-3 bar  
 3 = 0-7 bar  
 4 = 0-17 bar  
 5 = 0-34 bar  
 7 = 0-10 bar

### Digit 6 - Gauges (Major/Minor Scale)

0 = None  
 1 = Inlet (psig/kPa)  
 2 = Outlet (psig/kPa)  
 3 = Both inlet and outlet (psig/kPa)  
 5 = Inlet (BAR/psig)  
 6 = Outlet (BAR/psig)  
 7 = Both inlet and outlet (BAR/psig)

### Digit 7 - Orifice Size and Seat

1 = Cv 1.1mm (.02) PTFE  
 2 = Cv 1.8mm (.06) PTFE  
 3 = Cv 3.2mm (.1) PTFE  
 6 = Cv 1.8mm (.06) PCTFE  
 7 = Cv 3.2mm (.1) PCTFE  
 B = Cv 1.8mm (.06) PEEK

### Digit 8 - Assembly

See the EX1 Port Configuration Table on the back of this brochure for choice of assembly.

### Digits 13-15 - Inlet Fitting

Cylinder Connection\*  
 000 = None (1/4" female NPT)  
 M06 = 6mm ss compression tube fitting  
 M12 = 12mm ss compression tube fitting  
 TF2 = 1/8" ss compression tube fitting  
 TF4 = 1/4" ss compression tube fitting  
 TF6 = 3/8" ss compression tube fitting  
 TF8 = 1/2" ss compression tube fitting

### Digit 16 - Valve Assembly

0 = No valve (ss, ni, cp, Dursan LS)  
 1 = Diaphragm valve (ss, cp, Dursan LS)

### Digit 17 - Outlet Fitting

0 = None (1/4" female NPT)  
 1 = 1/4" male NPT fitting  
 2 = 1/8" ss compression tube fitting  
 3 = 1/4" ss compression tube fitting  
 4 = 3/8" ss compression tube fitting  
 5 = 1/2" ss compression tube fitting  
 6 = 6mm ss compression tube fitting  
 7 = 8mm ss compression tube fitting  
 8 = 10mm ss compression tube fitting  
 9 = 12mm ss compression tube fitting  
 A = 3/8" BSP RH cp fitting  
 B = 3/8" BSP LH cp fitting  
 C = 1/8" cp compression tube fitting  
 D = 1/4" cp compression tube fitting  
 E = 3/8" cp compression tube fitting  
 F = 1/2" cp compression tube fitting  
 G = 6mm cp compression tube fitting  
 H = 8mm cp compression tube fitting  
 J = 10mm cp compression tube fitting  
 K = 12mm cp compression tube fitting

### Accessories:

**Panel mount kit**  
 EXPA0002-01-000-000  
**Bonnet orientable vent kit**  
 EXPF0001-01-000-000  
**36" 316L stainless steel hose with check valve and cylinder connection, 210 bar**  
 EXPH0001-01-CON-000  
**36" 316L stainless steel hose with check valve and brass cylinder connection, 210 bar**  
 EXPH0002-01-CON-000  
**36" 316L Monel®-lined hose with cylinder connection for oxygen service, 265 bar**  
 EXPH0008-01-540-000  
**Stainless steel adjustable relief valve, 1-2 bar**  
 EXPV0001-01-001-001  
**Stainless steel adjustable relief valve, 1-7 bar**  
 EXPV0001-01-001-002  
**Stainless steel adjustable relief valve, 7-17 bar**  
 EXPV0001-01-001-003  
**Stainless steel adjustable relief valve, 17-35 bar**  
 EXPV0001-01-001-004  
**Stainless steel control station**  
 EXPV0004-01-000-1SH  
**Chrome-plated control station**  
 EXPV0004-01-000-1CH

### Key:

ss = Stainless steel  
 ni = Nickel-plated brass  
 cp = Chrome-plated brass  
 RH = Right hand  
 LH = Left hand  
 CON = Cylinder Connection

**NOTE:** If you are unable to find a configuration specific to your application's needs, call AURA Gas Controls directly at +1.757.422.8362.

\*AURA Supports all major international cylinder connections including: CGA, BS 341, DIN 477, JIS B 8246, and others available



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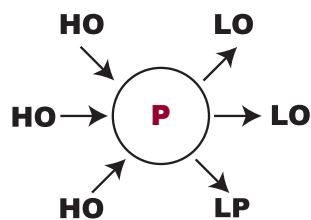
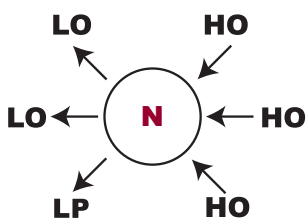
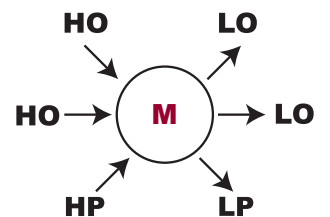
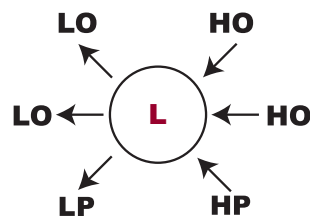
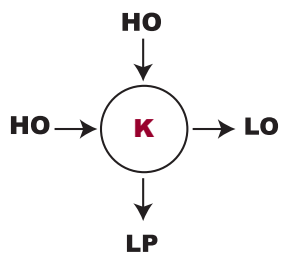
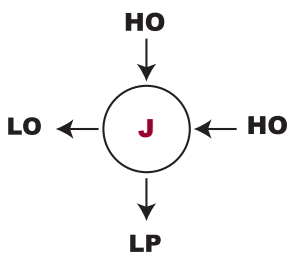
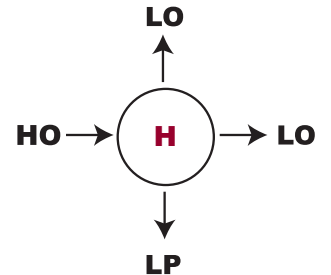
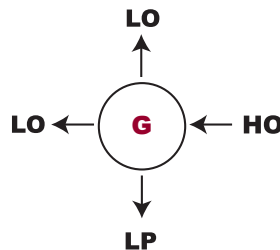
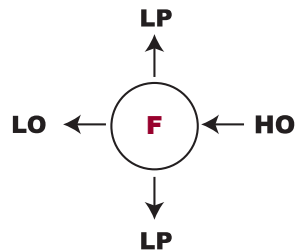
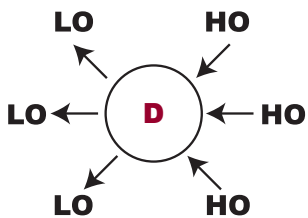
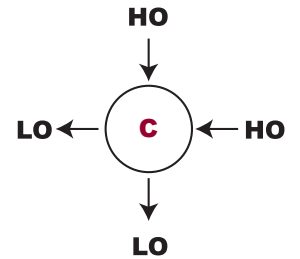
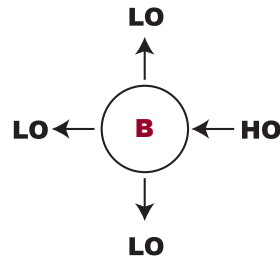
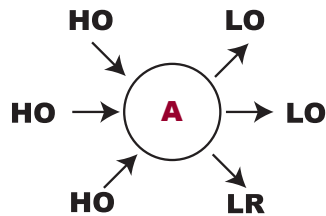
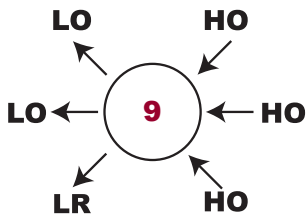
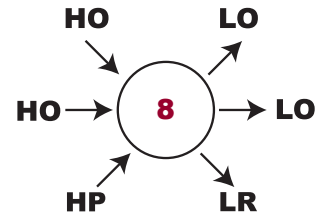
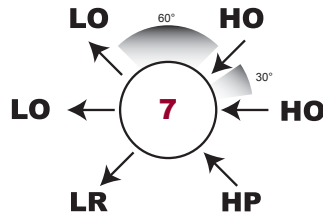
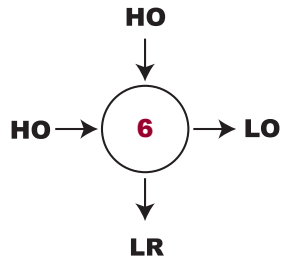
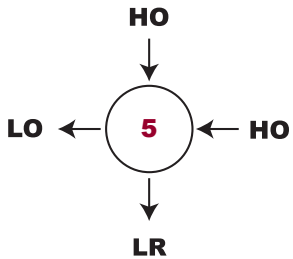
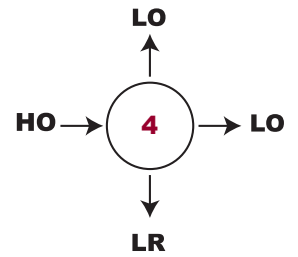
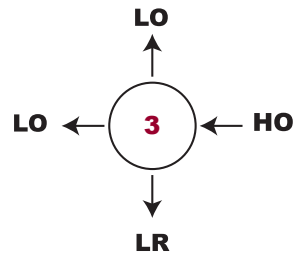
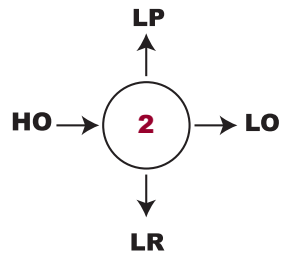
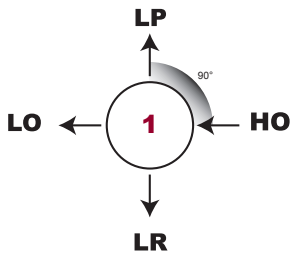
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Registered ISO 9001



# EX1

## Single Stage Pressure Reducing Regulator Port Configuration Table



### Key:

LO - Low Pressure Open  
LP - Low Pressure Plugged  
LR - Low Pressure with Relief Valve  
HO - High Pressure Open  
HP - High Pressure Plugged