

# EXS

## Sub-Atmospheric Single Stage Regulator



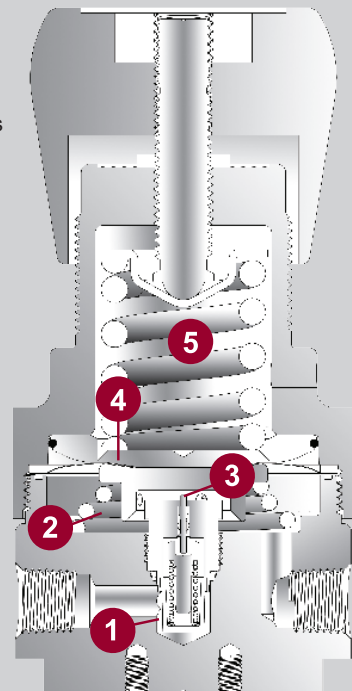
The AURA EXS is a precision single stage regulator designed to provide control under sub-atmospheric conditions in addition to low flow positive pressure applications. The proprietary hybrid spring design works in tandem with the EXS's exclusive oversized dual surface diaphragm, allowing precision pressure control under vacuum and positive pressure from 0 psia to 100 psig. 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.

Each EXS regulator is assembled in a Class 100 clean room as a complete assembly with all gauges, valves, and fittings attached. The complete assembly is 100% helium leak checked and cleaned for oxygen service. Additionally, the EXS undergoes multiple flow and function tests to meet the harsh demands and rugged environment of any application worldwide.

The EXS is available with Dursan™ LS inert and anti-corrosive technology that provides superior corrosive resistance to exotic metals in highly acidic or caustic applications, making the EXS the engineer's ideal choice for sub-atmospheric and low flow applications.

### EXS Features

- 1. 10-micron 360° filter**
  - Significantly more filtration of impurities
- 2. Hybrid spring design**
  - Precision performance under vacuum and positive pressure
- 3. Encapsulated seat design**
  - Ease of maintenance
- 4. Oversized dual surface diaphragm**
  - Sensitive pressure control
- 5. Field access to adjusting spring**
  - Change delivery pressures in the field



# EXS Sub-Atmospheric Single Stage Pressure Reducing Regulator

## Technical Data and Product Specifications

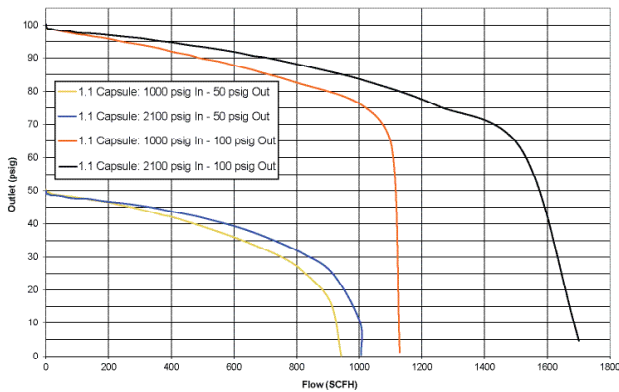
### Materials of Construction

	EXSS	EXSG
<b>Body</b>	316L stainless steel	Dursan™ LS
<b>Bonnet</b>	304 stainless steel	Dursan LS
<b>Diaphragm</b>	316L stainless steel	Dursan LS
<b>Seat</b>	PTFE	PTFE
<b>10-micron 360° filter</b>	316L stainless steel	Dursan LS
<b>Nozzle</b>	316L stainless steel	Dursan LS
<b>Hybrid spring</b>	Electro-less nickel-plated	Electro-less nickel-plated
<b>O-ring seal</b>	PTFE	PTFE

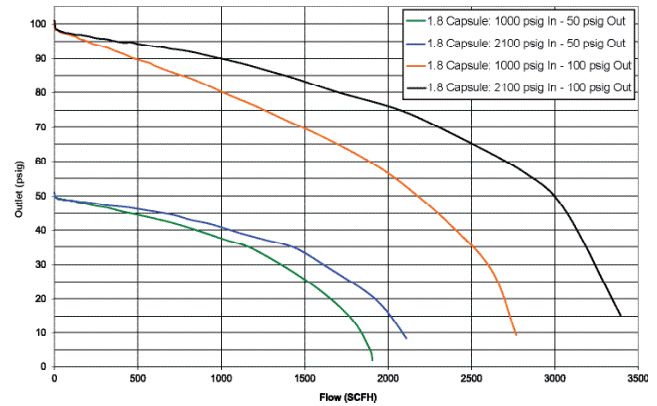
### Functional Specifications

<b>Design Pressure</b>	<ul style="list-style-type: none"> <li>Working pressure: 3000 psig PTFE</li> <li>Burst pressure &gt;4x working pressure</li> </ul>	<b>Temperature</b>	<ul style="list-style-type: none"> <li>PTFE: -40°F to 140°F (-40°C to 60°C)</li> </ul>
<b>Maximum Inlet Pressure</b>	<ul style="list-style-type: none"> <li>PTFE (3000 psig maximum inlet pressure)</li> </ul>	<b>Weight (bare body)</b>	<ul style="list-style-type: none"> <li>4 lbs 10 oz. (2.10 kg)</li> </ul>
<b>Leak Rate</b>	<ul style="list-style-type: none"> <li>External: <math>1 \times 10^{-7}</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>2" manufactured to ANSI/ASME B40.1</li> </ul>

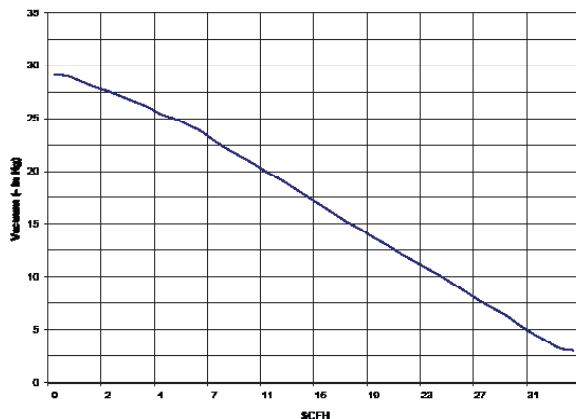
EXS Regulator, 1.1mm PTFE Capsule®



EXS Regulator, 1.8mm PTFE Capsule®



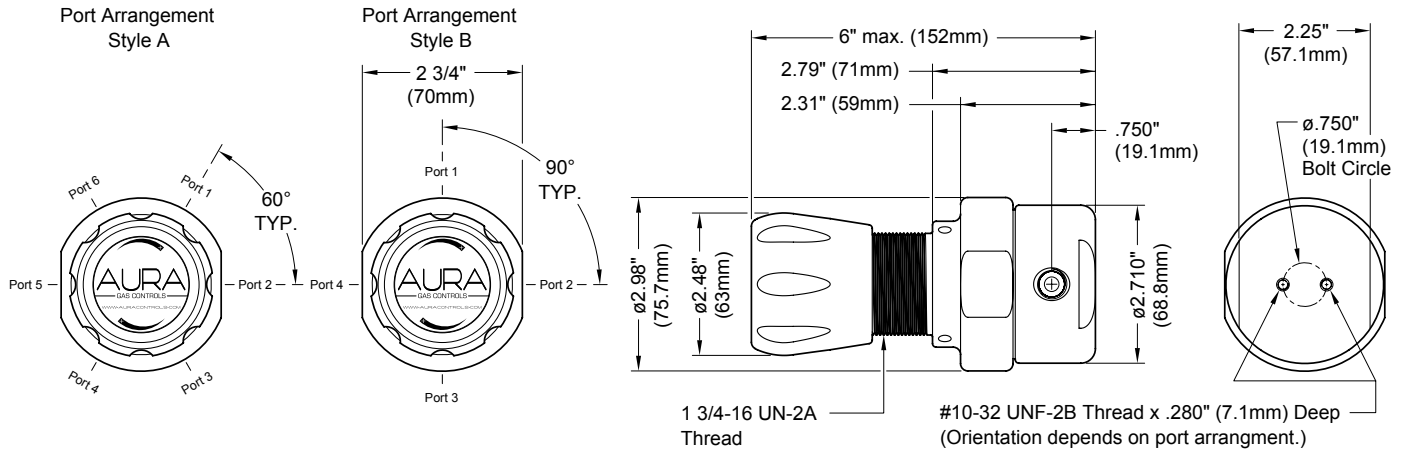
EXS Regulator, Vacuum Flow  
1.1mm, 1.8mm and 2.4mm



#### Each EXS 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**

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

**Regulator Type - Digits 1-3**

Single Stage Subatmospheric Regulator

**Material of Construction - Digit 4**

S = 316L stainless steel  
G = LumiShield inert and anti-corrosive technology

**Pressure Range - Digit 5**

2 = 0 psia to 50 psig  
3 = 0 psia to 100 psig

**Gauges - Digit 6 (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)

**Capsule® Material - Digit 7**

1 = Cv .02 (1.1mm) PTFE  
2 = Cv .06 (1.8mm) PTFE  
3 = Cv .08 (2.4mm) PTFE

**Assembly - Digit 8**

(See Port Configuration Table on the back of this brochure)

**Inlet Port - Digits 11-13**

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

**Valve Assembly - Digit 14**

0 = No valve (stainless steel)  
1 = Diaphragm valve (stainless steel)

**Outlet Fitting - Digit 15**

0 = None (1/4" female NPT)  
1 = 1/4" stainless steel FNPT fitting  
2 = 1/8" stainless steel TF  
3 = 1/4" stainless steel TF  
4 = 3/8" stainless steel TF  
5 = 1/2" stainless steel TF  
6 = 6mm stainless steel TF  
7 = 8mm stainless steel TF  
8 = 10mm stainless steel TF  
9 = 12mm stainless steel TF

**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 800.582.2565.

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



1501 Harpers Road, Virginia Beach, Virginia 23454

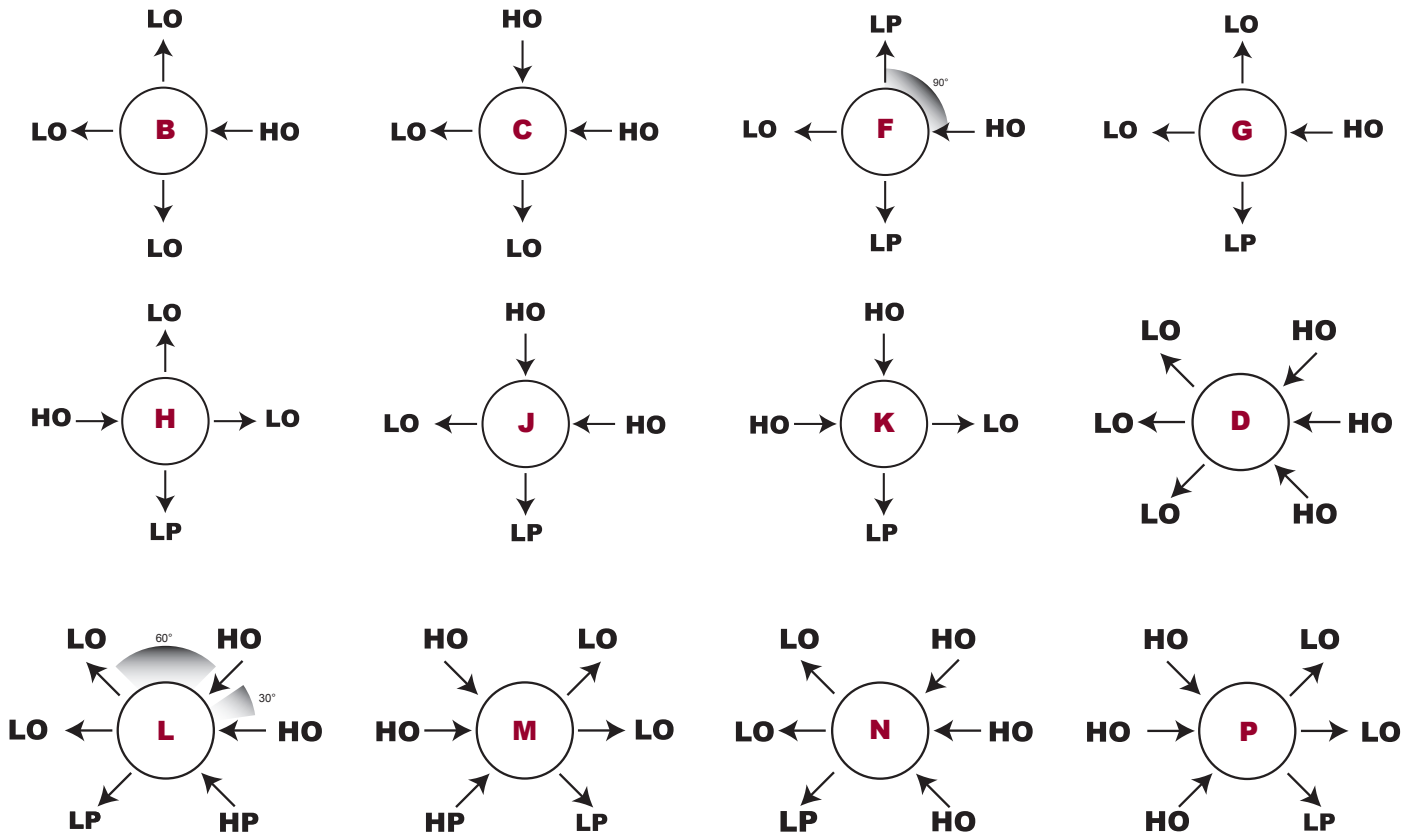
**800.582.2565**

www.AURACONTROLS.com

Registered ISO 9001



# EXS Sub-Atmospheric Single Stage Pressure Reducing Regulator Port Configuration Table



**Key:**  
 LO - Low Pressure Open  
 LP - Low Pressure Plugged  
 HO - High Pressure Open  
 HP - High Pressure Plugged



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