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 6000 psig 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.

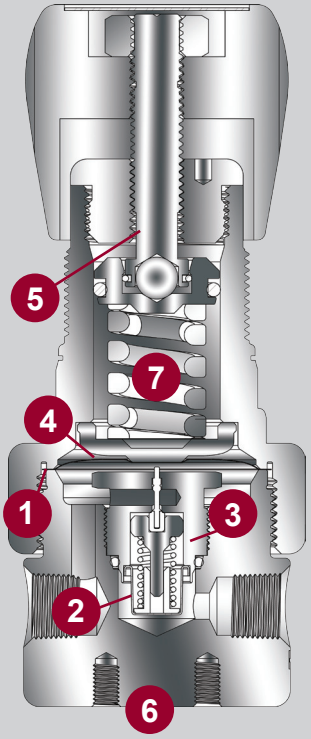
AURA's proprietary machining process yields surface finishes of 4-25 Ra designed to reduce corrosion. With its minimal internal volume, the EX1 also allows less gas to be used while purging. The AURA EX1 is assembled in a Class 100 cleanroom as a complete assembly with all gauges, fittings, and valves 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.

For secondary pressure control or less rigorous applications, the EX1P provides an economical mix of materials while boasting the same robust pressure regulating mechanism and leak integrity. Suitable for panel-building and point of use assemblies, the EX1P features the same wetted parts as the EX1S with a chrome-plated brass bonnet and polycarbonate knob. Unlike other EX1 regulators, the EX1P is not assembled in a Class 100 cleanroom.

EX1 Features

1. **Metal to metal seals**
   - $1x10^{-9}$ 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



AURA™ GAS CONTROLS

EX1 Single Stage Pressure Reducing Regulator Technical Data and Product Specifications

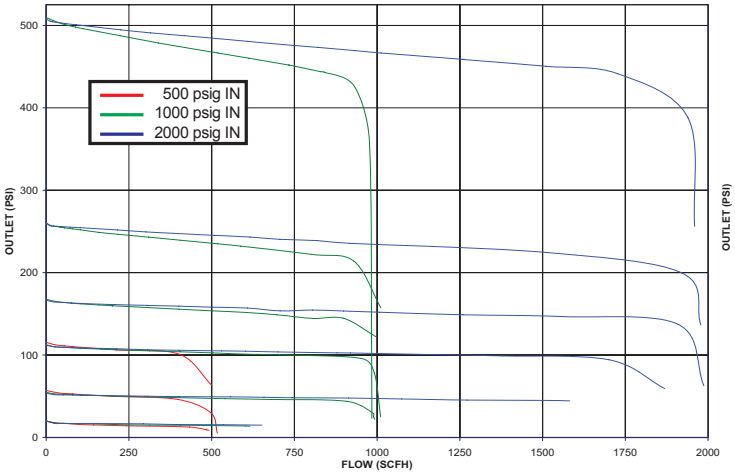
Materials of Construction

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

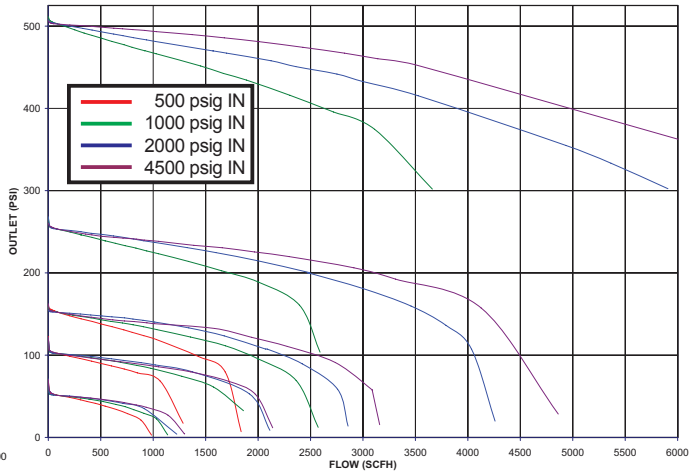
Functional Specifications

Design Pressure	• Working pressure: 3000 psig PTFE • Working pressure: 5500 psig PCTFE/PEEK • Burst pressure: > 4x Working pressure	**Temperature**	• PTFE: -40˚F to 150˚F (-40˚C to 66˚C) • PCTFE: -40˚F to 150˚F (-40˚C to 66˚C) • PEEK: -40˚F to 150˚F (-40˚C to 66˚C) -40˚F to 200˚F (-40˚C to 93˚C)* **Aluminum knob only*
Maximum Inlet Pressure	• PTFE (3000 psig maximum inlet pressure) • PCTFE (4500 psig maximum inlet pressure) • PEEK (6000 psig maximum inlet pressure)	**Weight (bare body)**	• 2 lbs. 5.5 oz. (1.06 kg)
Leak Rate	• External: $1x10^{-9}$ He ccs • Seat: $1x10^{-7}$ He ccs	**Gauges (optional)**	• 2" manufactured to ANSI/ASME B40.1

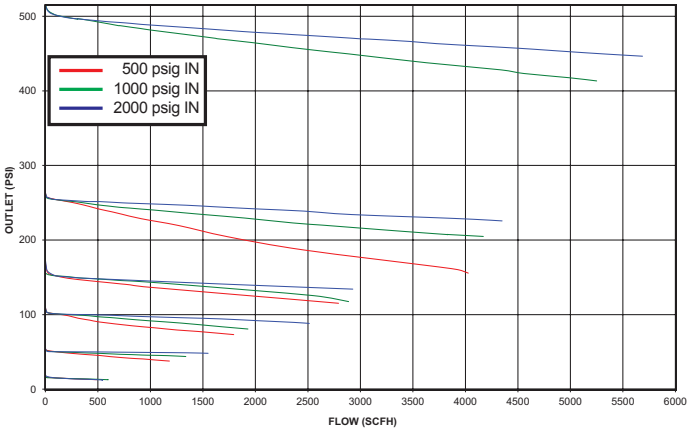
EX1 Regulator, 1.1mm PTFE Seat



EX1 Regulator, 1.8mm PCTFE Seat



EX1 Regulator, 3.2mm PTFE Seat

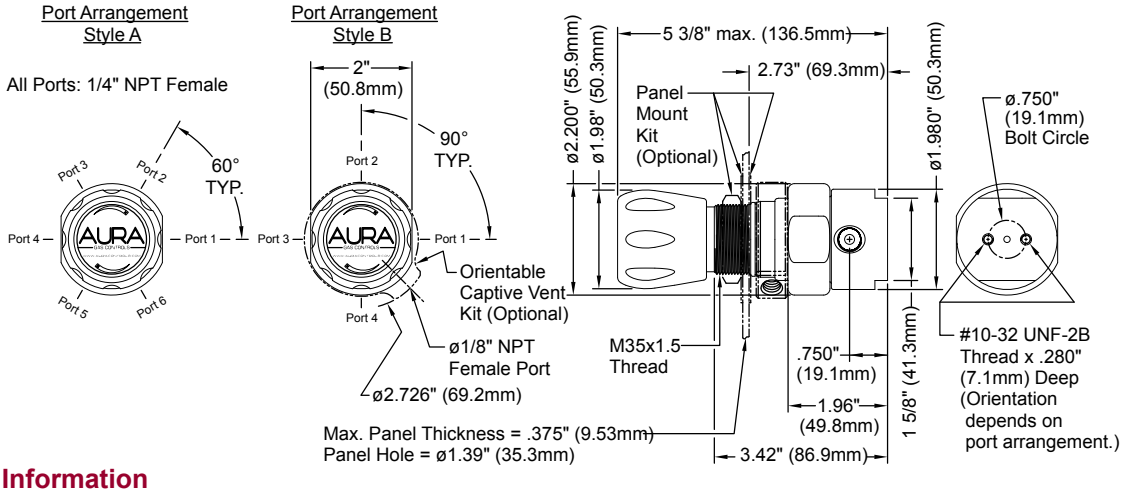


Each EX1 regulator assembly includes:

- 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

AURA Products are Manufactured and Assembled in the U.S.A.

Mounting and Installing Information



Ordering Information

EX1 [4] [5] [6] [7] [8] - [10] [11] - [13] [14] [15] - [16] [17] 0

Digit 4 - Material of Construction
S = 316L stainless steel
P = 316L stainless steel (wetted only)
C = Chrome-plated brass
G = Dursan LS inert and anti-corrosive technology

Digit 5 - Pressure Range
1 = 0-15 psig
2 = 0-50 psig
3 = 0-100 psig
4 = 0-250 psig
5 = 0-500 psig
7 = 0-150 psig

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 .02 (1.1mm) PTFE
2 = Cv .06 (1.8mm) PTFE
3 = Cv .1 (3.2mm) PTFE
6 = Cv .06 (1.8mm) PCTFE
7 = Cv .1 (3.2mm) PCTFE
B = Cv .06 (1.8mm) PEEK (not available with EX1P)

Digit 8 - Assembly
See the EX1 Port Configuration Table on the back of this brochure for choice of assembly.

Digits 10-11 - Knob
01 = Chrome-plated aluminum (EX1S, EX1C, EX1G)
Chrome-plated polycarbonate (EX1P)
BK = Black polycarbonate
BL = Blue polycarbonate
GN = Green polycarbonate
RD = Red polycarbonate
WT = White polycarboate

Digits 13-15 - Inlet Fitting
Cylinder Connection*
000 = None (¼" female NPT)
M06 = 6mm ss compression tube fitting
M12 = 12mm ss compression tube fitting
TF2 = ⅛" ss compression tube fitting
TF4 = ¼" ss compression tube fitting
TF6 = ⅜" ss compression tube fitting
TF8 = ½" ss compression tube fitting

Digit 16 - Valve Assembly
0 = No valve
1 = Diaphragm valve

Digit 17 - Outlet Fitting
0 = None (¼" female NPT)
1 = ¼" male NPT fitting
2 = ⅛" ss compression tube fitting
3 = ¼" ss compression tube fitting
4 = ⅜" ss compression tube fitting
5 = ½" 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 = ⅜" BSP RH cp fitting
B = ⅜" BSP LH cp fitting
C = ⅛" cp compression tube fitting
D = ¼" cp compression tube fitting
E = ⅜" cp compression tube fitting
F = ½" 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

Key:
ss = Stainless steel
cp = Chrome-plated brass
RH = Right hand
LH = Left hand

NOTE: If you are unable to find a configuration specific to your application's needs, call AURA Gas Controls directly at 800.582.2565.

Accessories:

Panel mount kit
EXPA0002-01-000-000

Rear mount kit
EXPA0006-01-000-000

Bonnet orientable vent kit
EXPF0001-01-000-000

36" 316L stainless steel hose with check valve and cylinder connection, 3000 psig
EXPH0001-01-CON-000

36" 316L stainless steel hose with check valve and brass cylinder connection, 3000 psig
EXPH0002-01-CON-000

36" 316L Monel®-lined hose with cylinder connection for oxygen service, 3000 psig
EXPH0008-01-540-000

Stainless steel adjustable relief valve, Viton® Seat, 10-19 psig
EXPV0001-01-001-001

Stainless steel adjustable relief valve, Viton Seat, 20-99 psig
EXPV0001-01-001-002

Stainless steel adjustable relief valve, Viton Seat, 100-249 psig
EXPV0001-01-001-003

Stainless steel adjustable relief valve, Viton Seat, 250-500 psig
EXPV0001-01-001-004

Stainless steel adjustable relief valve, Kalrez® Seat, 10-19 psig
EXPV0011-01-001-001

Stainless steel adjustable relief valve, Kalrez Seat, 20-99 psig
EXPV0011-01-001-002

Stainless steel adjustable relief valve, Kalrez Seat, 100-249 psig
EXPV0011-01-001-003

Stainless steel adjustable relief valve, Kalrez Seat, 250-500 psig
EXPV0011-01-001-004

Stainless steel control station, 3000 psig
EXPV0004-01-000-1SH

Chrome-plated brass control station, 3000 psig
EXPV0004-01-000-1CH

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

AURA GAS CONTROLS
1501 Harpers Road, Virginia Beach, Virginia 23454
800.582.2565 • www.AURACONTROLS.com
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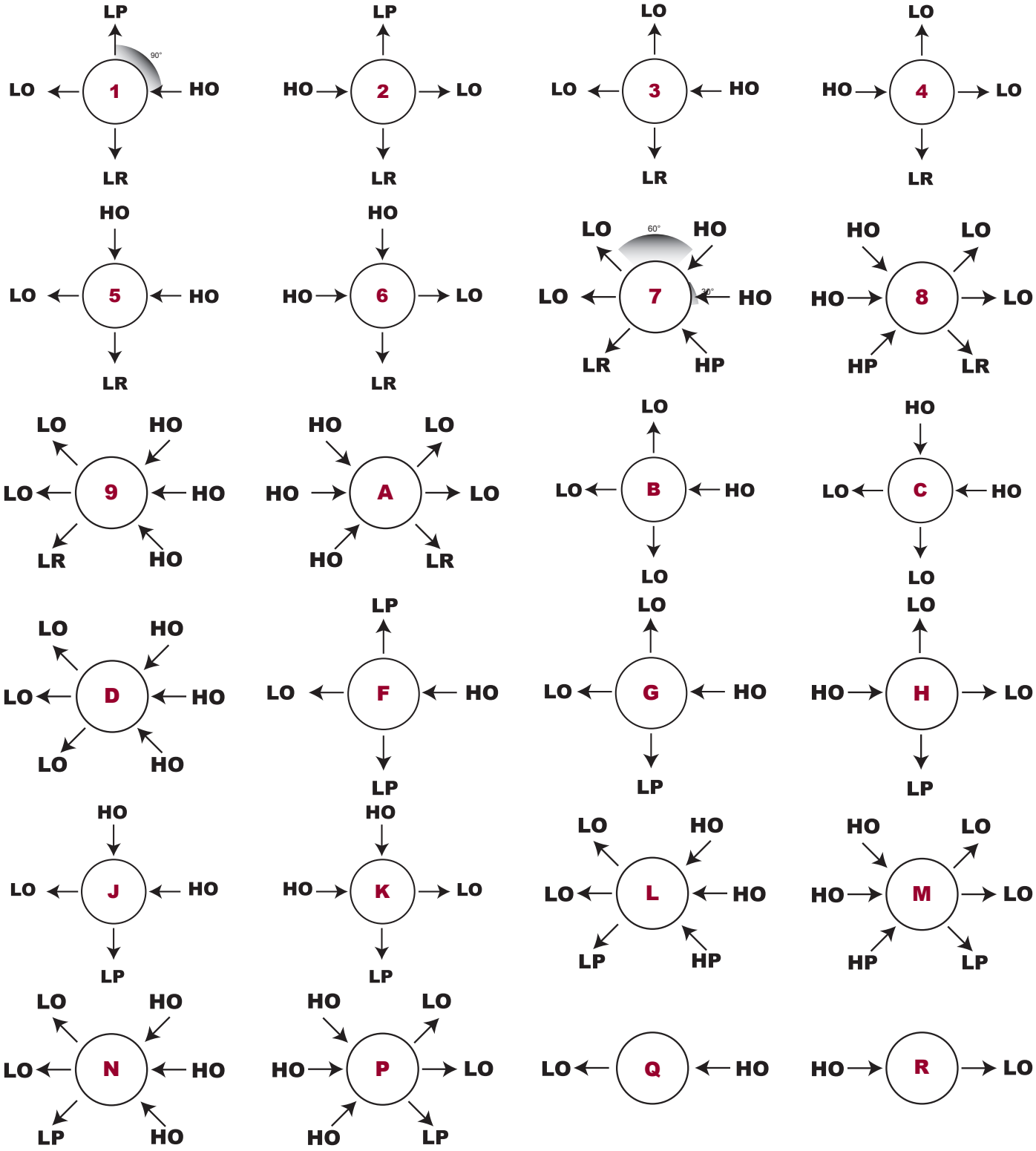
AURA GAS CONTROLS LIFETIME WARRANTY

EX1 Single Stage Pressure Reducing Regulator Port Configuration Table



Key:
LO - Low Pressure Open
LP - Low Pressure Plugged
LR - Low Pressure with Preset Relief Valve with PTFE Seat*
HO - High Pressure Open
HP - High Pressure Plugged
**Relief valve not available with EX1G*

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LEX3179EX1-E