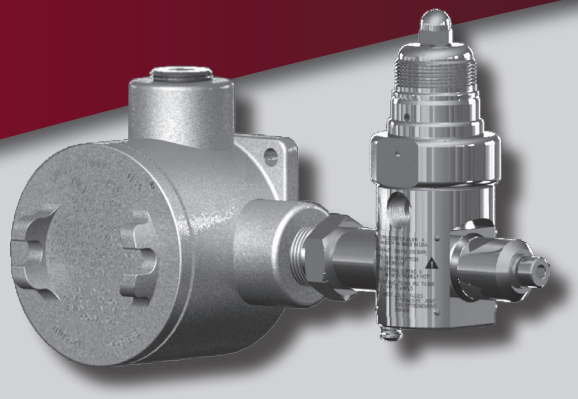
EXV

Vaporizing Regulators



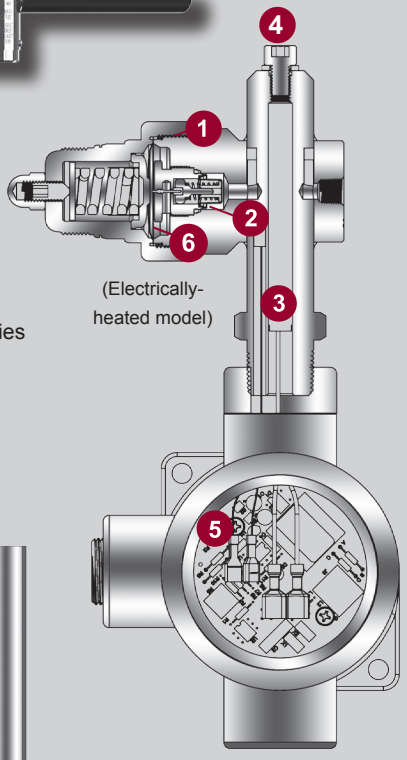
The AURA EXV provides steady and reliable heat to vaporize and maintain gas phase of samples for gas chromatography (GC) analysis in applications such as hydrogen sulfide (H_2S) measurement in natural gas custody transfer and processing, flare stack emissions monitoring, and carbon dioxide (CO_2) beverage analysis. Unlike the standard wire wrapped straight flow path design, AURA's proprietary labyrinth-style flow path keeps the sample in contact with the heated surface for longer as it traces its way through the large orifice size flow path, minimizing sample condensation through the regulator and across the pressure drop of the seat. In combination with the large orifice seat, the EXV ensures full sample vaporization and enables the highest flow rate possible, allowing the user to feed multiple analyzers using a single regulator.

The EXV's exclusive method of heating the sample generates a larger amount of heat using a smaller heater than the standard design, reducing startup times, minimizing the rigors placed on the electronics, and improving analytical reliability by eliminating dual-phase samples. With heater options up to 200 watts, the EXV is effective for use with even heavy hydrocarbon species.

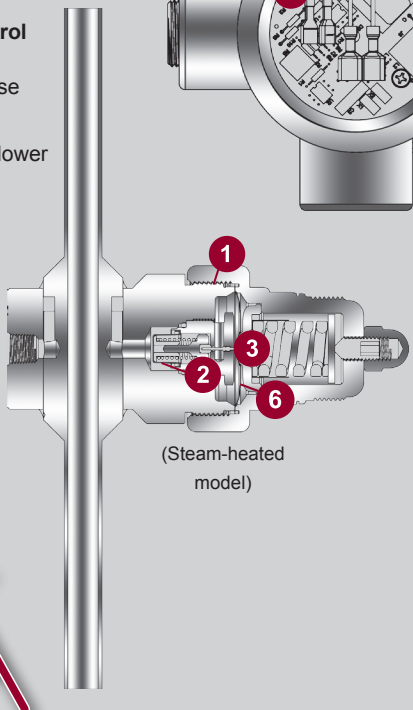
The EXV is available with Dursan™ LS inert and anti-corrosive technology that provides superior corrosion resistance versus exotic metals in highly acidic or caustic applications with compounds such as hydrogen sulfide (H_2S), hydrogen chloride (HCl), ammonia (NH_3), and carbon dioxide (CO_2). Each EXV regulator is 100% helium leak checked and undergoes multiple flow and function tests to ensure the highest levels of durability and performance, making it the right choice for vaporizing applications.

EXV Features

1. **Metal to metal seals**
   - 1x10^{-9} He ccs leak rate
2. **10-micron 360° inlet filter**
   - Significantly more filtration of impurities
3. **Thermal cutoff standard (electrically-heated)**
   - Ensures T1, T3 & T4 conformance
4. **Heater element access port (electrically-heated)**
   - Field repairable
5. **Adjustable temperature control (electrically-heated)**
   - Flexible to maintain gas phase
6. **Dual surface diaphragm**
   - Extremely sensitive even at lower pressures



(Electrically-heated model)



(Steam-heated model)

AURA™
GAS CONTROLS

EXV Vaporizing Regulator Technical Data and Product Specifications

Materials of Construction

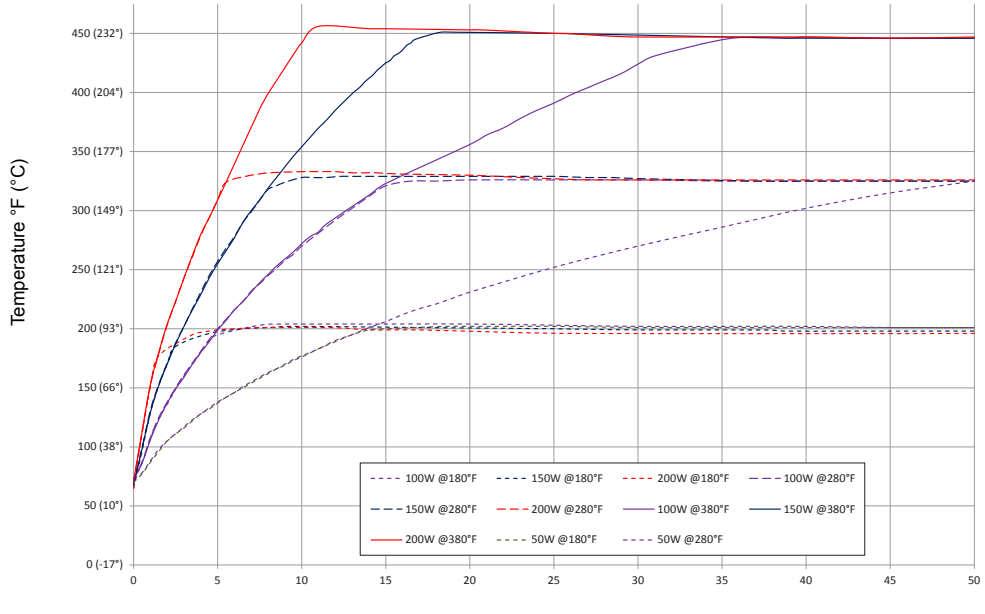
	EXVS	EXVG
Body	316L stainless steel	Dursan™ LS
Bonnet	304 stainless steel	Dursan LS
Diaphragm	316L stainless steel	Dursan LS
Seat	PEEK	PEEK
10-micron 360° filter	316L stainless steel	Dursan LS
Nozzle	316L stainless steel	Dursan LS
Heat Exchanger	316L stainless steel	Dursan LS
Explosion-proof Enclosure	Iron alloy/aluminum	Iron alloy/aluminum

Functional Specifications

Maximum Inlet Pressure	• 3000 psig (210 bar)	**Design Pressure**	• Working pressure: 3000 psig (210 bar) • Burst pressure: >4x working pressure
Media Temperature Range (electrically-heated)	• -40˚F to 380˚F (-40˚C to 193˚C)	**Leak Rate**	• External: $1x10^{-9}$ He ccs • Seat: Bubble tight
Media Temperature Range (steam-heated)	• -40˚F to 500˚F (-40˚C to 260˚C)	**Steam Tubing**	• 1/2" OD x .049" wall thickness
Ambient Temperature Range	• -4˚F to 140˚F (-20˚C to 60˚C)	**Maximum Steam Pressure**	• 3700 psig (255 bar)
Control Temperature Range	• 77˚F to 180˚F (25˚C to 82˚C) • 160˚F to 280˚F (71˚C to 138˚C) • 250˚F to 380˚F (121˚C to 193˚C)	**Third Party Conformity Certifications**	• CAN/CSA E60079-0-2009 and E60079-1-2007 • CRN (Registration # OH5216.5R1) • UL 1203 • ATEX 13688
Electrical Supply	• 120V and 220V	**Explosion-proof Enclosure**	• Class 1, Division 1, Group A,B,C,D
Heater Rating	• 50, 100, 150, or 200 watts	**Weight (bare body)**	• 4 lbs 10 oz. (2.10 kg)
Cv	• .1		

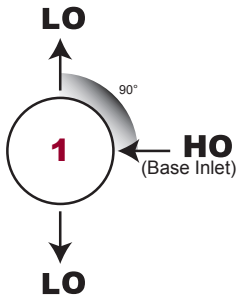
EXV Regulator Heating Efficiency

The graph below reports the speed the process inlet reaches temperature at various wattage and temperature ranges starting from standard laboratory temperature and ambient pressure under static conditions.



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

Porting Configuration



Key:
LO - Low Pressure Open
HO - High Pressure Open

Ordering Information

EXV [4][5][6][7][8]-01-[13][14][15]

Material of Construction - Digit 4
S = 316L stainless steel
G = DursanLS inert and anti-corrosive technology

Pressure Range - Digit 5
1 = 0-15 psig (0-1 bar)
2 = 0-50 psig (0-3.5 bar)
3 = 0-100 psig (0-6.9 bar)
4 = 0-250 psig (0-17 bar)
5 = 0-500 psig (0-34.5 bar)
7 = 0-150 psig (0-10 bar)

Wattage - Digit 6
0 = None (Steam-heated)
1 = 50 watts, T1 rated
2 = 100 watts, T1 rated
3 = 150 watts, T1 rated
4 = 200 watts, T1 rated
5 = 50 watts, T3 rated
6 = 100 watts, T3 rated
7 = 150 watts, T3 rated
8 = 200 watts, T3 rated
9 = 50 watts, T4 rated

Outlet Port - Digit 7
0 = None (¼" female NPT)
1 = ⅛" ss compression tube fitting
2 = ¼" ss compression tube fitting
3 = ⅜" ss compression tube fitting
M = 6mm compression tube fitting

Voltage/Temperature Range - Digit 8
0 = Steam Regulated
1 = 120V, 77°-180°F (25°C-82°C)
2 = 120V, 160°-280°F (71°C-138°C)†
3 = 120V, 250°-380°F (121°C-193°C)*†
4 = 240V, 77°-180°F (25°C-82°C)
5 = 240V, 160°-280°F (71°C-138°C)†
6 = 240V, 250°-380°F (121°C-193°C)*†
* not available in T3 rating
† not available in T4 rating

Inlet Port - Digits 13-15
000 = None (⅛" female NPT)
M06 = 6mm ss compression tube fitting outlet
TF2 = ⅛" ss compression tube fitting outlet
TF4 = ¼" ss compression tube fitting outlet
TF6 = ⅜" ss compression tube fitting outlet

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:

Circuit board repair kit:
EXPRVS07-01-000-000 120V, 77°-180°F
EXPRVS08-01-000-000 120V, 160°-280°F
EXPRVS09-01-000-000 120V, 250°-280°F
EXPRVS0A-01-000-000 240V, 77°-180°F
EXPRVS0B-01-000-000 240V, 160°-280°F
EXPRVS0C-01-000-000 240V, 250°-280°F

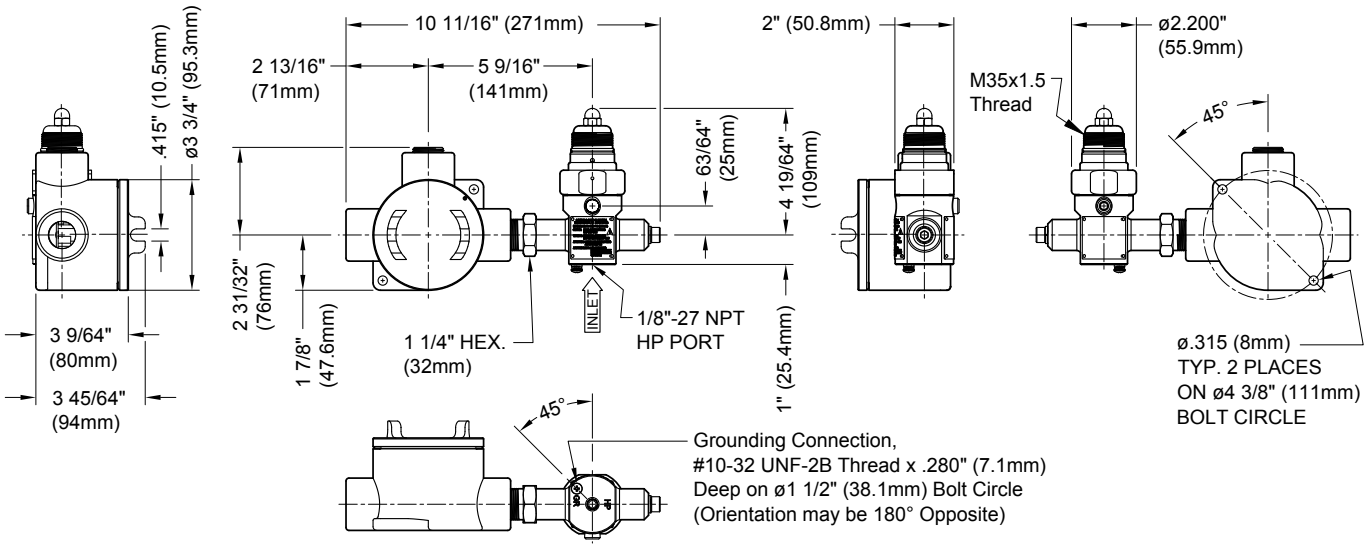
Heater repair kit:
EXPRVS11-01-000-000 120VAC/50 Watt
EXPRVS21-01-000-000 120VAC/100 Watt
EXPRVS31-01-000-000 120VAC/150 Watt
EXPRVS41-01-000-000 120VAC/200 Watt
EXPRVS14-01-000-000 240VAC/50 Watt
EXPRVS24-01-000-000 240VAC/100 Watt
EXPRVS34-01-000-000 240VAC/150 Watt
EXPRVS44-01-000-000 240VAC/200 Watt

Thermal cut off:
EXPRVSTA-01-000-000, T1 & T3 rated
EXPRVSTB-01-000-000, T4 rated

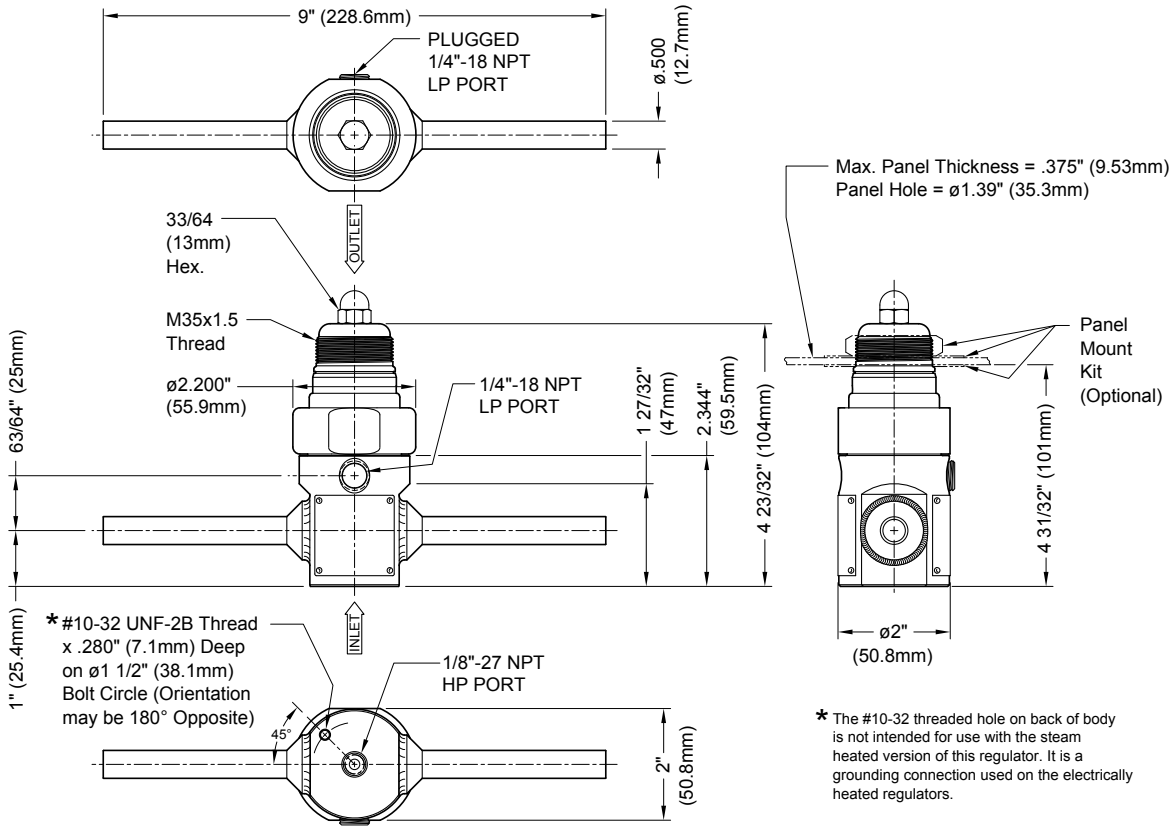
AURA™ GAS CONTROLS
1501 Harpers Road, Virginia Beach, Virginia 23454
800.582.2565
www.AURACONTROLS.com
Registered ISO 9001

EXV Vaporizing Regulator Mounting and Installing Information

Electrically-Heated



Steam-Heated



* The #10-32 threaded hole on back of body is not intended for use with the steam heated version of this regulator. It is a grounding connection used on the electrically heated regulators.

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