



Neon
Controls

“Go Brighter. Go Neon.”

Series 12

Back Pressure Regulator



Series 12 Stainless Steel

Typical Applications

- Calibration equipment
- Gas and liquid sampling
- Purge and carrier gases
- Component testing
- Industrial controls
- Cryogenic dewars

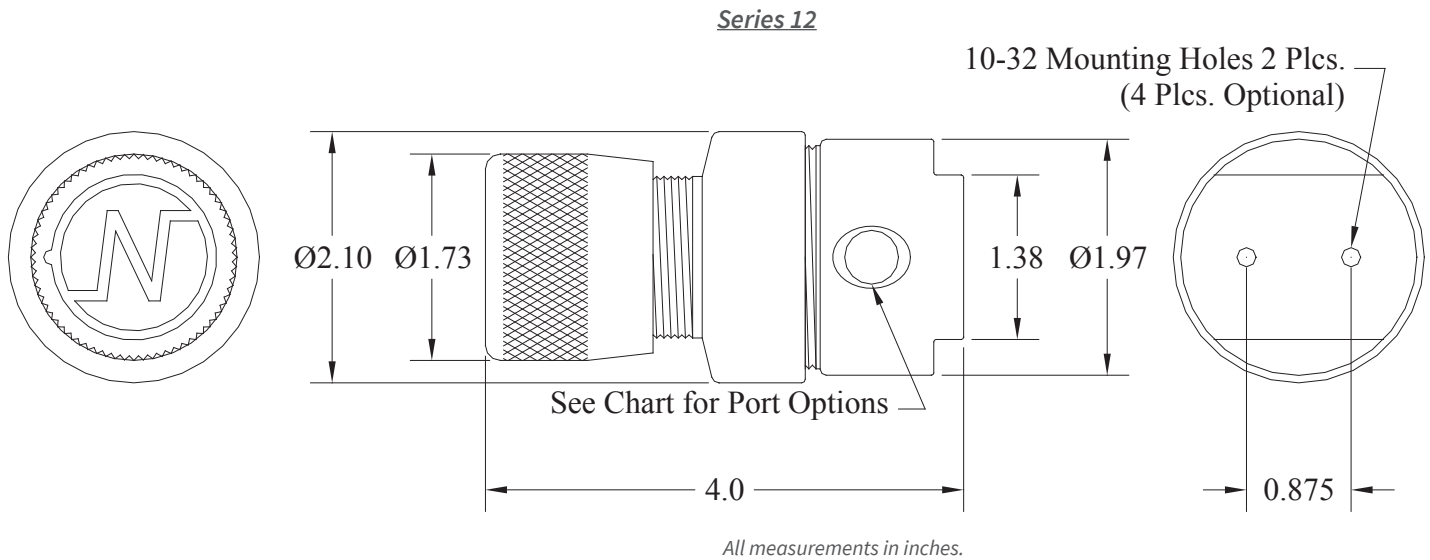
Features and Benefits

- 316L Diaphragm
- Multiple Cv options
- 2 year factory warranty

The Neon 12 Series is a compact, lightweight, and high purity back pressure regulator. Our sensitive, long life, 316L stainless steel diaphragms and a Cv of 0.30 affords steady upstream control of pressure from low to moderate flow applications even with fluctuating flow conditions. It can be used for both gas and liquid applications.

The large diaphragm provides sensitive throttling action making the Series 12 a superior choice over a relief valve.

We offer a wide variety of body materials, porting options, and connections to meet your specific needs while minimizing the internal unswept volume of the regulator. Regulators can be supplied with options such as installed pressure gauges and valves.



Specifications

For questions about this product, please contact Neon Controls.

Operating Parameters

Pressure rating per criteria of CGA E-4; ASME B31; ASME BPVC

Maximum Set Pressure

1000 psig / 69 Bar

Maximum Outlet Pressure

10, 25, 50, 100, 250, 500, 750, 1000 psig

70, 175, 345, 690, 1725, 3450, 5170, 6895 kPa

1, 2, 3.5, 7, 17.5, 35, 52, 69 Bar

Design Proof Pressure

150% of rated pressure

Leakage

Internal: Bubble tight

External: Designed to meet $< 2 \times 10^{-8}$ atm/cc He

Operating Temperature

-40°F to 500°F / -40°C to 260°C

(See Chart B)

Flow Capacity

0.30, 0.46

Wetted Materials

Body

Brass, 316L Stainless Steel, Monel, Hastelloy C, Titanium, Electroless Nickel Plated Brass

Actuator

EPDM, PCTFE, Peek, Kalrez, Tefzel [standard], Viton

Seal

Teflon, Viton

Diaphragm

316L Stainless Steel with Tefzel Sealing Ring

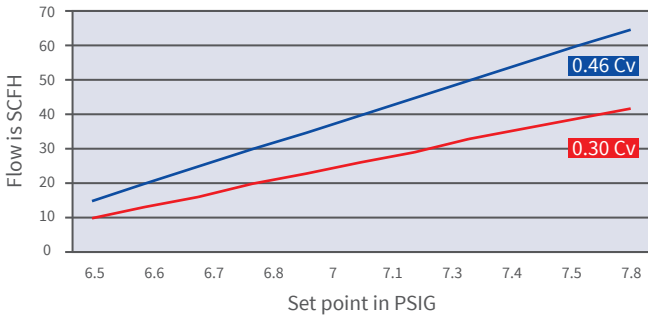
Spring Housing

316L Stainless Steel, Electroless Nickel Plated Aluminum, Black Anodized Aluminum

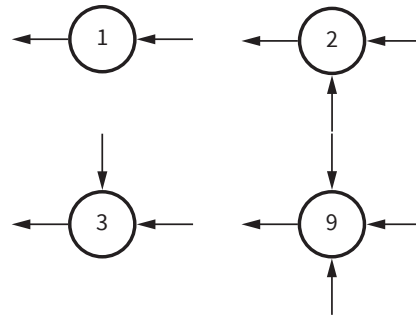


Series 12 Brass

NEON SERIES 12
Flow Curves Nitrogen at 72°F



Standard Porting Configuration
(Chart A)



Many other porting configurations available

12	-	2	4	9	B	2	-	4	A	Z	1
Series	-	Body Mtl	Control Range	Porting	Connection	Gauges	-	Cv	Diaphragm	Actuator	Cap
12		1 - Brass 2 - 316L SS 3 - Monel 4 - Hastelloy C 5 - Titanium 6 - Electroless Nickel Plated Aluminum	1 - 10 PSI 2 - 25 PSI 3 - 50 PSI 4 - 100 PSI 5 - 250 PSI 6 - 500 PSI 7 - 750 PSI 8 - 1000 PSI	See Chart A	A - 1/8" B - 1/4" C - 3/8" Others by request	1 - with gauges 2 - no gauges 3 - customer supplied		4 - 0.30 5 - 0.46	A - 316L SS w/Tefzel Ring B - 316L SS w/Teflon Shield	E - EPDM F - PCTFE K - Peek R - Kalrez V - Viton Z - Tefzel [standard]	1 - ENP Al 2 - 316L SS 3 - Anod Al 4 - ENP Al PM 5 - 316L SS PM 6 - Anod Al PM With Knob

(Chart B)

Pressure and Temperature Table		
Seat Material	Max Temperature F°	Max Control Range @ Max Temp
TEFZEL	150°F	1000 PSI
PCTFE (KEL-F)	150°F	1000 PSI
EPDM	250°F	250 PSI
VITON	250°F	250 PSI
KALREZ	300°F	250 PSI
PEEK	500°F	1000 PSI

Max temperature rating is for media only

Shipping Weight: 1.9 pounds

NeonControls.com

How To Videos

Available 24/7

Smartphone & Tablet Compatible

<http://youtube.com/neoncontrols>



Warranty

Precision Instrumentation warrants each Neon regulator to be free from defects in materials and workmanship for two years after manufacture date.

In the unlikely event that a Neon regulator is defective in workmanship or materials, Precision Instrumentation will, at its discretion, repair or replace the regulator free of charge.

The selling distributor must process all warranty claims. If the original purchaser suspects a defect in a Neon regulator, the regulator, together with proof of purchase, must be returned to the selling distributor for evaluation and disposition.

This warranty applies only under conditions of use for which each regulator is designed and does not cover cosmetic damage or damage due to misuse, abuse, neglect, accident, improper installation, or acts of God. This warranty does not extend to or apply to any regulator that has been repaired or altered by any party other than Precision Instrumentation or its authorized distributors.

This warranty is in lieu of and excludes all other warranties, expressed or implied, including the warranties of merchantability and fitness for a particular purpose. Precision Instrumentation will not be liable for any special or consequential damages, or for any loss, damage or expense directly or indirectly arising from use of or inability to use any regulator, either separately or in combination with any other equipment or material, or from any other case.

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Hastelloy is a registered trademark of Cabot Corp. KEL-F is a registered trademark of 3M.



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Precision
Instrumentation