Neon Controls

"Go Brighter. Go Neon."

Series 87

Protocol Station
Two stage cylinder regulator

Series 87,
shown with optional
packless diaphragm valve

Typical Applications

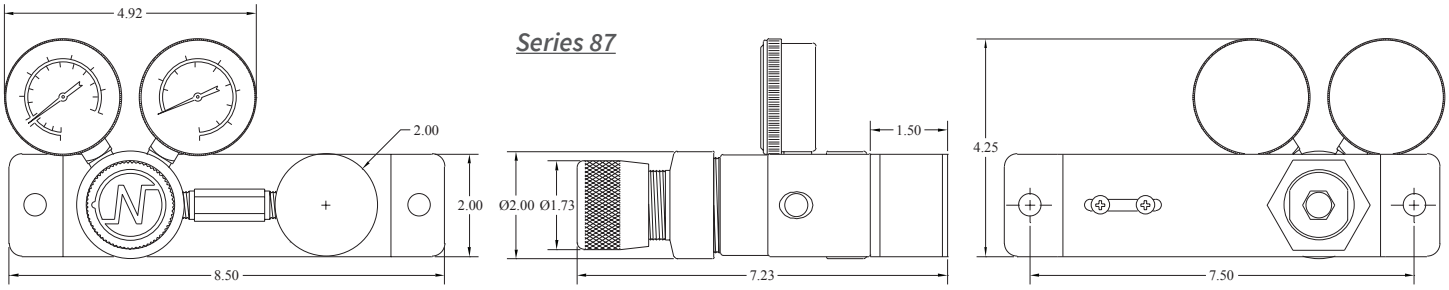
- Laboratory and Point-of-Use Gas systems in pharmaceutical, food and beverage, and other high purity gas applications
- Process analyzer gases, metal fabrication, petrochemical, and specialty industrial gas cylinders

Features and Benefits

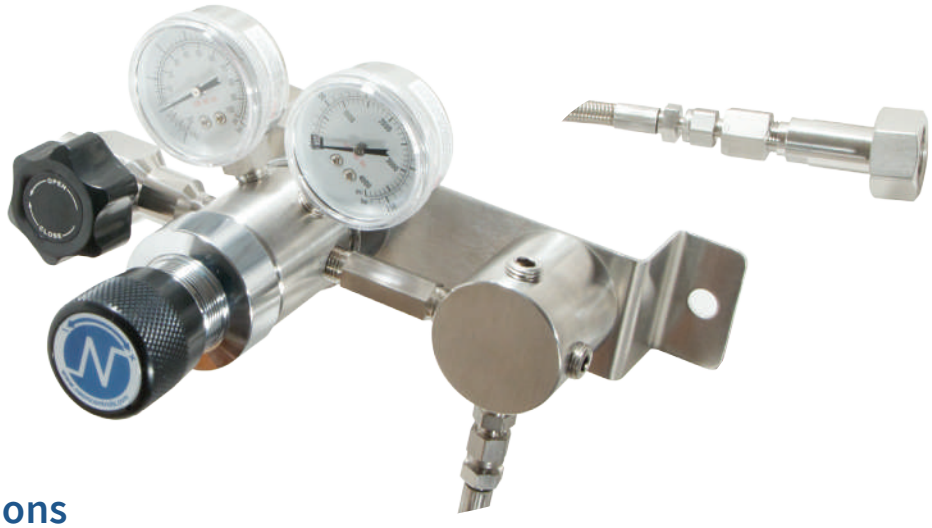
The Series 87 Protocol Station is a wall mount system designed to mount any Neon Controls high purity pressure regulator to a wall or strut system. Wall mounting provides ease of use, prevents damage to the regulator, and improves safety.

The Neon Controls Series 87 protocol station includes a Neon Controls regulator, a nipple, and a 316L stainless steel cross all mounted on a heavy duty bracket. The cross has three open ports all connected to the inlet of the regulator. Typically, one port is used for a flexible armored hose with check valve and CGA, which is connected to a gas cylinder. Other ports can be used for a purge connection, pressure indicator, switch, or are just plugged off for future use.

The station can be configured for either horizontal or vertical mounting. The diagram below is the typical horizontal configuration. When done vertically the regulator is mounted on the top, with the cross on the bottom. The nipple goes to an inlet port 90° from the normal regulator input port, which is plugged.



All measurements in inches.



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 Inlet Pressure

6000 psig / 415 Bar

Maximum Outlet Pressure

2, 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, 70 Bar

Design Proof Pressure

150% of rated pressure

Leakage

Internal: Bubble tight
External: Designed to meet < 2 x 10^{-8} atm/cc He

Operating Temperature

-40°F to 185°F / -40°C to 85°C

Flow Capacity

0.03, 0.07, 0.24, 0.30, 0.35, 0.58

Wetted Materials

Body

Brass, 316L Stainless Steel, Electroless Nickel Plated Brass

Seat

Tefzel, Peek, PCTFE *[standard]*, Vespel

Filter

10 micron 316L Stainless Steel

Seal

Teflon, Viton

Diaphragm

316L Stainless Steel with Tefzel Sealing Ring

Spring Housing

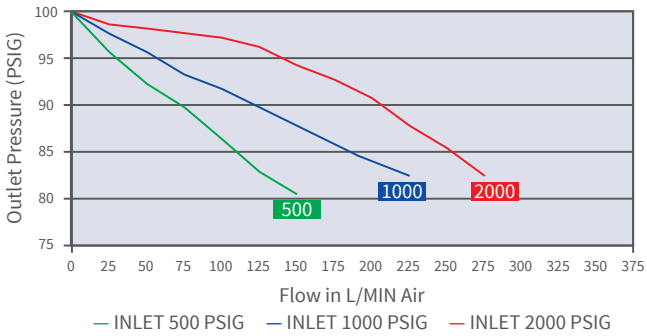
316L Stainless Steel, Electroless Nickel Plated Aluminum, Black Anodized Aluminum

Remaining Parts

Inconel

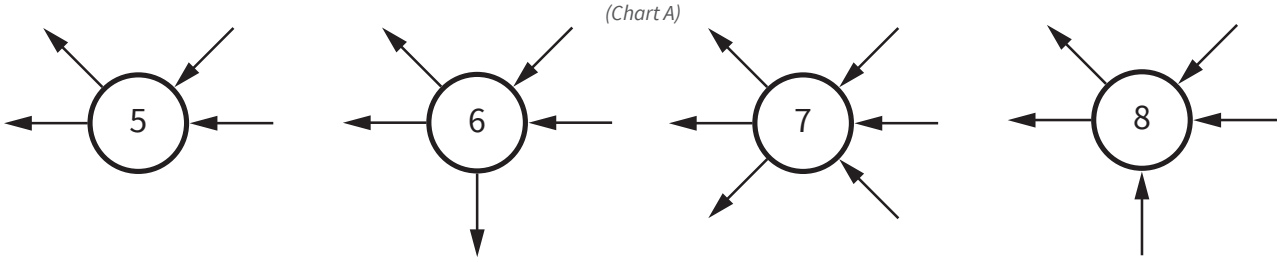
SERIES 87
Supply Pressure Effect

SERIES 87
0-100 PSIG Control Range W/.07 Cv



Regulator Porting Configuration

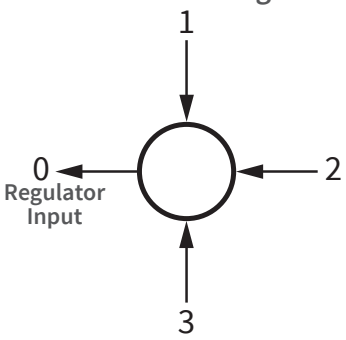
(Chart A)



Many other porting configurations available

87	-	2	4	5	B	1
Series	-	Body Mtl	Outlet Range	Porting	Connection	Gauges
87		1 - Brass 2 - 316L SS 6 - Electroless Nickel Plated Aluminum	0 – 2 PSI 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	B – 1/4”	1 – with gauges 2 – no gauges 3 – customer supplied

Cross Porting



-	2	A	Z	D	-	2	A	Z	1
-	1st Stage: Cv	Diaphragm	Seat	Cap	-	2nd Stage: Cv	Diaphragm	Seat	Cap
	1 – 0.03 2 – 0.07 3 – 0.24 4 – 0.30 6 – 0.35 7 – 0.58	A – 316L SS w/Tefzel Ring B – 316LSS w/Teflon Shield	F – PCTFE *[standard]* K – Peek P – Vespel Z - Tefzel	D – ENP Al PM E – 316L SS PM F – Anod Al PM **With Acorn Nut**		1 – 0.03 2 – 0.07 3 – 0.24 4 – 0.30 6 – 0.35 7 – 0.58	A – 316L SS w/Tefzel Ring B – 316LSS w/Teflon Shield	F – PCTFE *[standard]* K – Peek P – Vespel Z - Tefzel	1 – ENP Al 2 – 316L SS 3 – Anod Al **With Knob**

-	580	-	H	P	P	H	-	T	3
-	CGA	-	Orientation	Port 1	Port 2	Port 3	-	Type	Length
	Insert 3 digit portion of CGA number		H - Horizontal V - Vertical	P - Plug V - Valve S - Switch H - Hose	P - Plug V - Valve S - Switch H - Hose	P - Plug V - Valve S - Switch H - Hose		T - TFE/SS Braid C - CSS/SS Braid	3 - 3 Feet 6 - 6 Feet 9 - 9 Feet X - Other

Pressure and Temperature Rating for Seats				
Code	Material	Pressure in PSI Minimum	Pressure in PSI Maximum	Temperature Maximum
F	PCTFE	10	3600	150°F
Z	TEFZEL	10	2400	150°F
K	PEEK	50	6000	150°F
K	PEEK	50	3600	500°F
P	VESPEL	25	6000	150°F
P	VESPEL	25	3600	500°F

Special Options	
04	Relief Valve (<150 psi)
15	Outlet valve - packed
16	Outlet valve - packless
71	Find Adjust
73	Helium Leak Test
75	Relief Valve (150 psi +)
SR	Self-relieving (2nd stage)

For other options contact factory

Shipping Weight: 8 pounds

SERIES 87

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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Precision Instrumentation

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