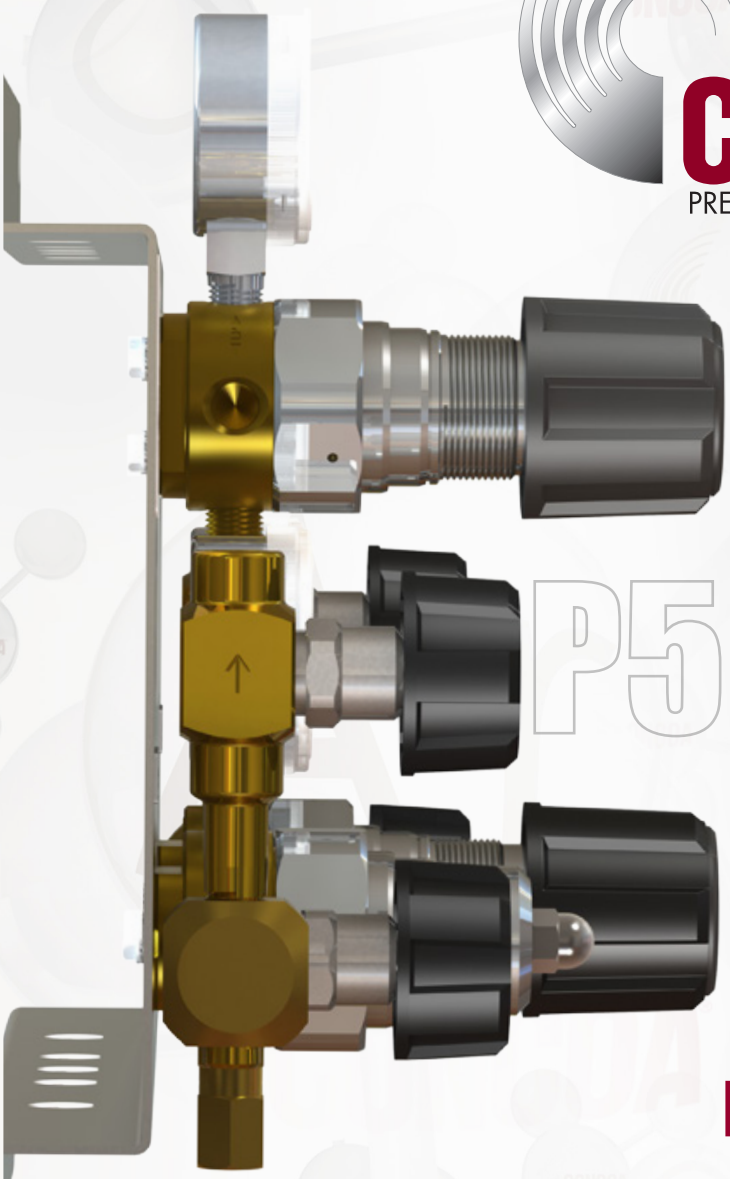
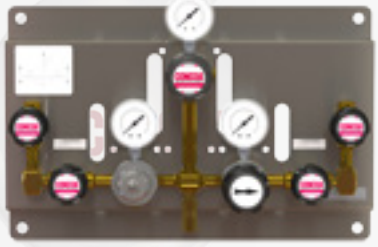
CONCOA®
PRECISION GAS CONTROLS



P5

400 Series
Automatic Gas Switchover Panel

Stainless Steel or Brass Barstock Regulator



For High Purity Gases

Description

The P5 Automatic Gas Switchover Panel is designed to provide a seamless flow of high purity (up to grade 6.0+), toxic, reactive, or corrosive gases from two sources such as cylinders or cylinder bundles without user intervention.

Manufactured in an ISO 9001:2015 certified facility, each P5 panel is 100% Helium leak checked and cleaned for oxygen service.

Features

Pressure differential switchover
Automatically change gas source without supply interruption

Metal-to-metal diaphragm seals
High leak integrity and no contamination

316L stainless steel convoluted diaphragms
Durable and diffusion resistant membrane

CAPSULE® seats with 10-micron filtration
Long service life and reliable performance

Stainless steel panel
Clean appearance and easy installation

Internal process or inert gas micro-purge
Purity and safety maintained during cylinder changes

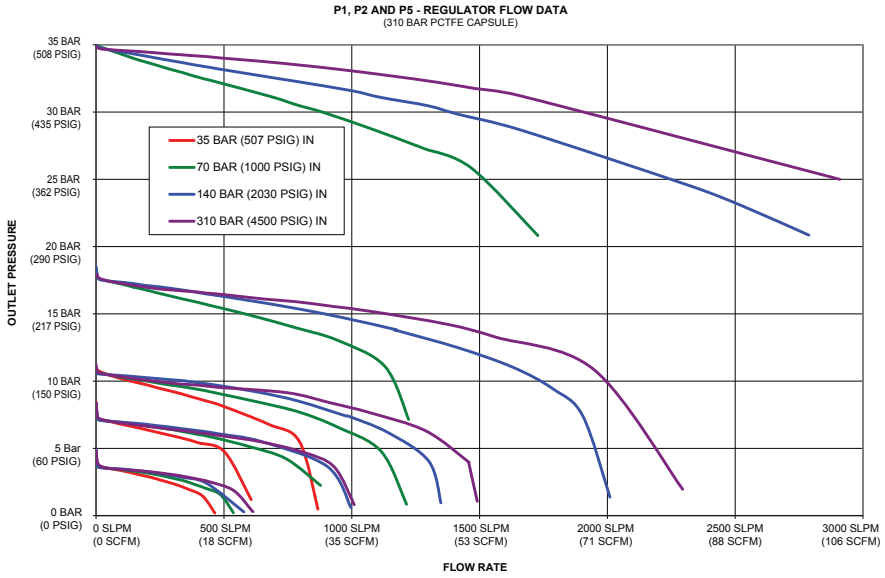
Pipe away relief valve
Safely vent gas

Wide range of outlet pressures
Broad range of applications

Specifications

Maximum Inlet Pressures	Regulator: 310 bar (4500 psig) Diaphragm Valve: 240 bar (3500 psig)
Operating Temperature	-40˚C to 60˚C (-40˚F to 140˚F)
Helium Leak Integrity	$1x10^{-8}$ scc/sec
Gauges	50mm (2") diameter
CV:	0.1

Flow Data



Materials

		P5S	P5B
Regulator	Body	316L stainless steel barstock	Brass barstock
	Bonnet	Chrome-plated brass barstock	Chrome-plated brass barstock
	Seat	PCTFE	PCTFE
	Filter	10-micron 316L stainless steel	10-micron sintered bronze
	Diaphragm	316L stainless steel	316L stainless steel
Diaphragm Valves	Body	316L stainless steel barstock	Brass barstock
(Optional)	Diaphragms	Elgiloy®	Elgiloy
	Seat	PCTFE	PCTFE
	Seals	Metal-to-metal	Metal-to-metal
Needle Valves	Body	316L stainless steel barstock	Brass barstock
(Optional)	Stem	316L stainless steel	316L stainless steel
	Packing	Glass-filled PTFE	Glass-filled PTFE
Gauges	Case	Stainless steel	Chrome-plated brass
	Stem	316L stainless steel	Nickel-plated brass
	Bourdon tube	316L stainless steel	Copper alloy
Pipe Fittings		316L stainless steel	Brass
Tube Fittings		316L stainless steel	316L stainless steel
Panel		14-gauge 304 stainless steel	14-gauge 304 stainless steel

P5 Ordering Information

P5 _ _ _ _ _ _ - 0 1 - _ _ _ _

Materials

B. Brass

S. Stainless steel

Outlet Pressure

1. 5 bar (70 psig) nominal*
1 bar (15 psig) optional†

2. 14 bar (200 psig) nominal*
10 bar (150 psig) optional†

3. 20 bar (300 psig) nominal*
17 bar (250 psig) optional†

4. 35 bar (500 psig) nominal*
27 bar (400 psig) optional†

**Actual outlet pressure as much as 3 bar (45 psig) higher or lower than nominal depending on current priority and source.*

†Maximum guaranteed outlet with integral line regulator option (see outlet options).

Inlet Gauge

3. 0-280 bar/ 0-4000 psig

4. 0-42 bar/ 0-600 psig

5. 0-70 bar/ 0-1000 psig

6. 0-21 bar/ 0-300 psig

7. 0-28 bar/ 0-400 psig

8. 0-420 bar/ 0-6000 psig

A. 0-280 bar/ 0-4000 psig with pressure switch

B. 0-42 bar/ 0-600 psig with pressure switch

J. 0-420 bar/ 0-6000 psig with pressure switch

C. 0-28,000 kPa/ 0-4000 psig

D. 0-4200 kPa/ 0-600 psig

E. 0-7000 kPa/ 0-1000 psig

F. 0-2100 kPa/ 0-300 psig

G. 0-2800 kPa/ 0-400 psig

H. 0-42,000 kPa/ 0-6000 psig

Transducers

0. No inlet pressure transducers

A. Standard inlet pressure transducers with alarm

B. Standard inlet pressure transducers without alarm

C. Intrinsically safe pressure transducers with alarm

D. Intrinsically safe pressure transducers without alarm

Outlet

1* or A† or L‡ or T•. 1/4" NPT-F

2* or B† or M‡ or U•. Outlet diaphragm valve with 1/4" NPT-F

3* or C† or N‡ or V•. 1/4" compression tube fitting

4* or D† or P‡ or W•. 6mm compression tube fitting

5* or E† or Q‡ or X•. Outlet diaphragm valve with 1/4" compression tube fitting

6* or F† or R‡ or Y•. Outlet diaphragm valve with 6mm tube fitting

*Includes line regulator for constant delivery pressure. Outlet from regulator.

†Includes line regulator for constant delivery pressure. Outlet from top of panel (valve shipped separately for pipeline installation where applicable).

‡Does not include line regulator for constant delivery pressure or outlet pressure gauge. Outlet from switching assembly.

•Does not includes line regulator for constant delivery pressure. Includes outlet pressure gauge. Outlet from top of panel (valve shipped separately for pipeline installation where applicable).

Connection

-001. No inlet hoses (1/4" NPT-F inlet)

-CON. Cylinder connection for inlet hoses

Inlet Hoses

0. None

1. 610mm (24") armored stainless steel core

2. 914mm (36") armored stainless steel core

3. 1829mm (72") armored stainless steel core

4. 610mm (24") armored Monel® core

5. 914mm (36") armored Monel core

6. 1829mm (72") armored Monel core

7. 610mm (24") tethered stainless steel core

8. 914mm (36") tethered stainless steel core

9. 1829mm (72") tethered stainless steel core

A. 610mm (24") tethered Monel core

B. 914mm (36") tethered Monel core

C. 1829mm (72") tethered Monel core

Inlet Assembly

0. No valve

1. Regulator isolation diaphragm valve

2. Regulator isolation diaphragm valve and process purge outlet isolation diaphragm valve (1/4" NPT-F purge outlet)

3. Regulator isolation diaphragm valve and process purge outlet isolation needle valve (1/4" NPT-F purge outlet)

4. Regulator isolation diaphragm valve and process purge outlet isolation diaphragm valve with check valve (1/4" NPT-F purge outlet)

5. Regulator isolation diaphragm valve and process purge outlet isolation needle valve with check valve (1/4" NPT-F purge outlet)

6. Regulator isolation diaphragm valve, inert purge inlet isolation diaphragm valve, and inert purge outlet isolation diaphragm valve (1/4" NPT-F purge inlet and outlet)

8. Regulator isolation diaphragm valve, inert purge inlet isolation diaphragm valve, and inert purge outlet isolation diaphragm valve with check valve (1/4" NPT-F purge inlet and outlet)

EXAMPLE

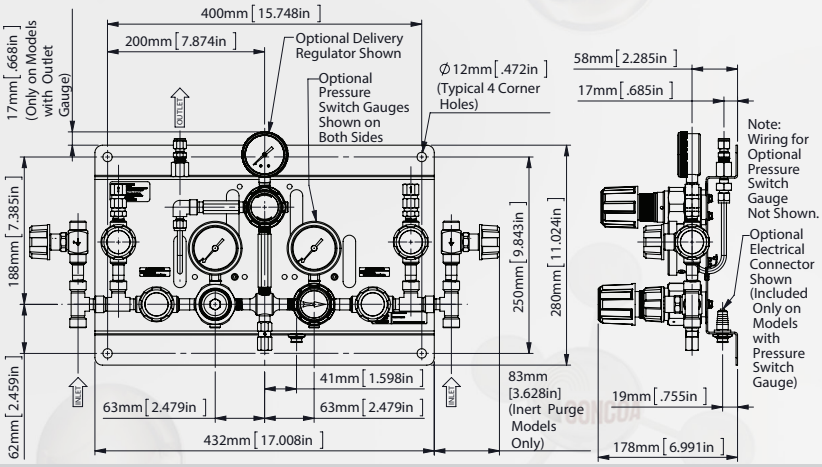
P5 S 3 3 2 6 0 - 0 1 - D 0 6 2

Stainless steel P5 assembly with an integral line regulator providing constant pressure up to a maximum of 17 bar; 0-280 bar/0-4000 psig inlet gauges; regulator inlet isolation valves and process purge isolation valves; outlet diaphragm valve with 6mm compression tube fitting from the integral line regulator; no inlet pressure transducers; and 914mm (36") length armor-jacketed 316L stainless steel flexible hoses with DIN 477 #6 cylinder connections.

P5 Installation and Typical Configuration

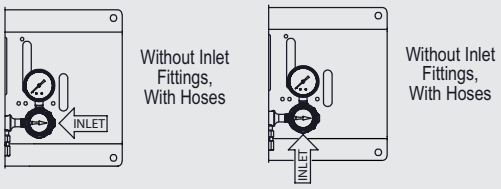
TYPICAL SYSTEM - P5S1A8F0-01-0010 Shown:

Dimensions shown are typical for all P5 series systems unless otherwise noted.
Dimensions are shown on one side only. Dimensions on opposite side are mirror image.

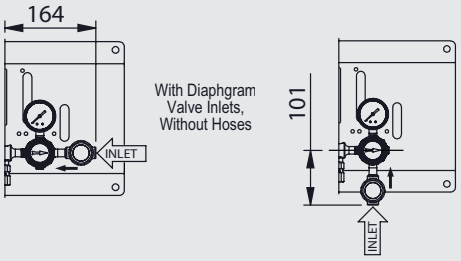


Inlet Assembly Options

0



1



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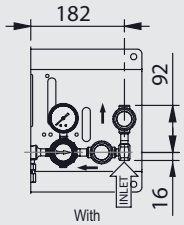

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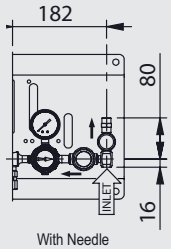

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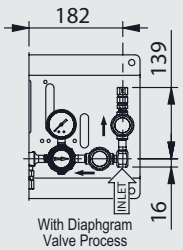

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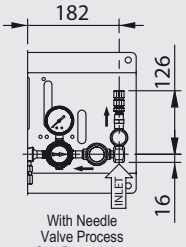

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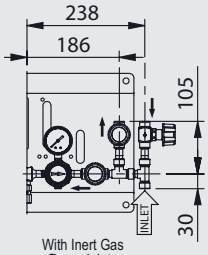

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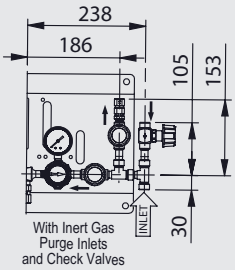
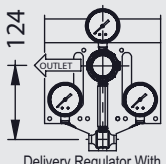


Outlet Options

1



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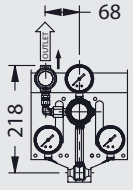
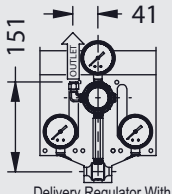


3 or 4



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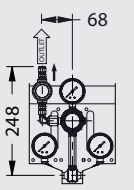
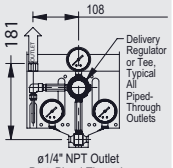
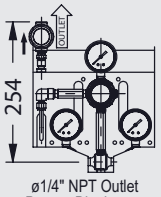


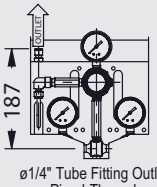
A or T



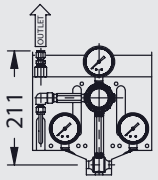
B or U



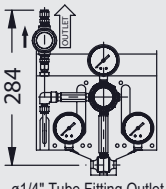
C or V



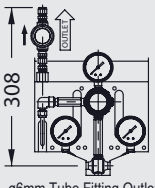
D or W



E or X



F or Y



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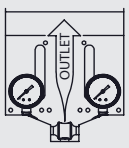
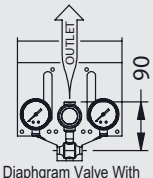
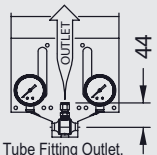


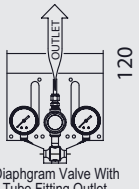
M



N or P



Q or R



Note: All inlet options use a 1/4" NPT female port. Right-hand inlets are shown. Left-hand inlets are mirror image. All dimensions are in mm.

SPF155C