



**Pressure Differential Changeover Station
350 PSIG (Laboratory)
LP x LP (Liquid Cylinders, Gas Withdraw)**

SPECIFICATION

Pressure Differential Changeover Station

The BeaconMedaes Laboratory pressure differential changeover station accommodates multiple liquid cylinders (gas withdraw) equally divided into two banks for a specific gas service. The cylinder banks provide an uninterrupted supply of gas for the specific gas application. The manifold is cleaned, tested and prepared for the indicated gas service and constructed following NFPA, ASME B31.3 and CGA guidelines.

Manifold Design

A bank regulator (one for each cylinder bank) is used to initially reduce the cylinder pressure to the line regulator which controls the pressure outlet to the pipeline distribution system. The changeover station automatically changes from the depleted primary supply bank to the reserve supply bank. After replacement of the depleted cylinders the priority bank selector knob should be turned to the opposite cylinder bank.

The changeover station includes a delivery pressure gauge, two cylinder bank pressure gauges (left and right bank), and a primary bank selector handle on the right bank regulator. The direction that the primary bank selector handle is pointing determines which bank is in service.

The changeover station has intermediate and line pressure relief valves to protect components from over pressurization.

The changeover station includes an alarm box with color coded LED visual indicators. The green LEDs are illuminated when their respective cylinder bank pressures are satisfactory. The red LED illuminates when a cylinder bank is depleted. The alarm box contains an audible horn that alarms when a bank is depleted. The silence button stops the horn but the red LED remains illuminated. The alarm box includes dry contacts allowing

for remote alarm connections for cylinder changeover. The alarm box operates with a 24VAC plug-in power transformer (provided with the station).

The changeover station is supplied stainless steel flexible hoses for each cylinder gas connection. Each hose includes a gas specific end connection with a check valve.

Optional vent valves allow the flexible hoses to be purged of contaminants before initial startup and during cylinder replacement.

Environmental Considerations

Changeover stations are to be installed in accordance with guidelines stated by the NFPA, CGA, OSHA and all applicable local codes. Manifold components are designed to work best over a temperature range of -20°F through 120°F. Wider temperature variation may cause malfunctions to occur. The changeover station should be located in a clean, well ventilated area which is free of oil and combustible materials.

NOTE:

For 2x2 configurations, we recommend to use one (1) vent kit per bank to balance the liquid cylinder pressures. The vent kit allows equal withdrawal from the liquid cylinders per bank.

Technical Data

Maximum Inlet Pressure 350 psig [24 Barg]

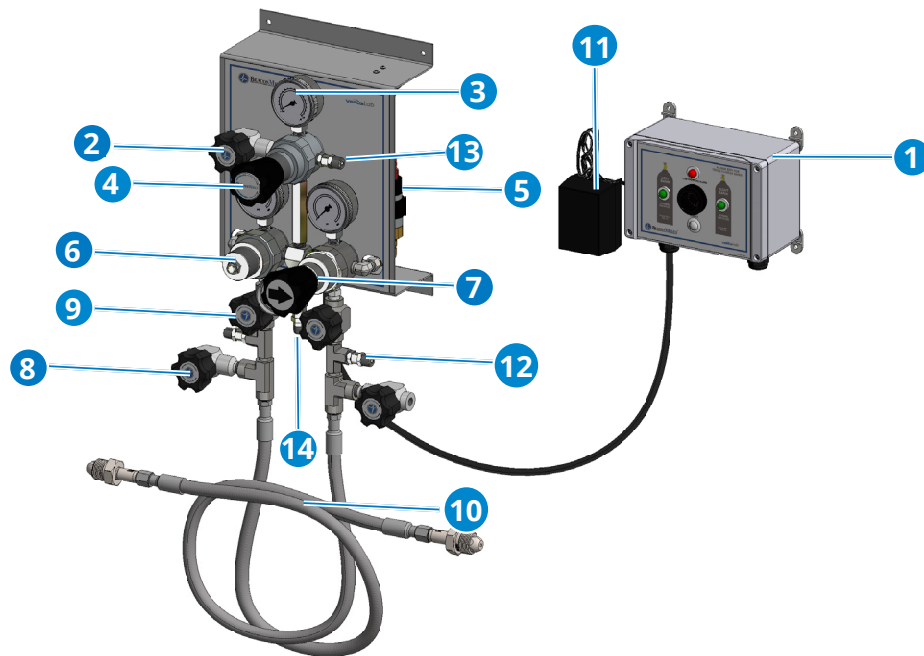
Delivery Pressure 30-100 psig [2 Barg to 6.9 Barg]

Flow

O₂, N₂, Ar Limited to 350 scfh by each cylinder
CO₂ Limited to 100 scfh by each gas heater



Standard Configuration
Model Shown with Vent Valves



- 1 Alarm box with visual indicators and audible horn for supply bank status
- 2 Outlet line diaphragm valve
- 3 Delivery pressure gauge
- 4 Delivery pressure regulator, single-stage diaphragm type regulator used to adjust the delivery pressure.
- 5 Pressure switch is an adjustable, single pole switch that is connected to high pressure port of each bank regulator to monitor pressure in each bank of cylinders.
- 6 Fixed-pressure regulator
- 7 Changeover regulator
- 8 Optional vent valves allow the operator to remove any contaminants that may have entered the system during cylinder replacement.
- 9 Optional block valves, allows the operator to isolate the pressure regulator prior to a cylinder change.
- 10 Flexible hoses are Stainless Steel and equipped with gas specific cylinder fittings and check valve to prevent contamination.
- 11 Power transformer, wall plug-in step down transformer supplying 24VAC to the alarm box.
- 12 Thermal expansion relief valve.
- 13 Pipeline pressure relief valve
- 14 Intermediate pressure relief valve

Ordering Information

PDC350B - - - SSH - -
A B C D E F

BeaconMedæS Manifold Parent Model Number Chart			
Variable	Definition	Allowable Value	Description
A	Inlet Pressure	350	350 PSIG
B	Material	B	Brass
C	Gas	320 580A 580N 540	Carbon Dioxide Argon Nitrogen Oxygen
D	No. of Cylinders	2 4	1x1 2x2
E	Hose	SSH	Stainless Steel Hose
F	Option*	VV	Vent Valve

* Manifolds that use 4 cylinders (2x2) and an optional vent valve will require header bars.

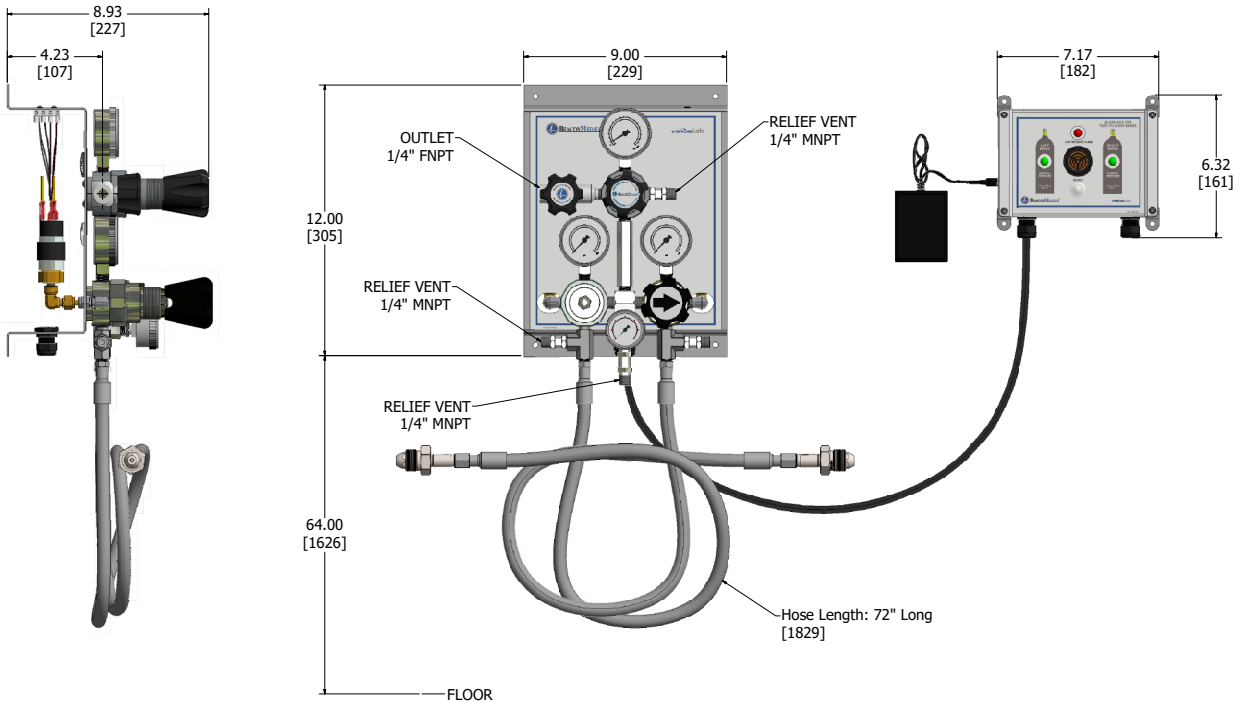
Example: MANIFOLD PDC 350 PSIG INLET, BRASS, CGA320-CARBON DIOXIDE, 2X2 CYLINDERS, STAINLESS STEEL HOSES

Example Model Number: PDC350B-320-4-SSH

Example: MANIFOLD PDC 350 PSIG INLET, BRASS, CGA580-NITROGEN, 1X1 CYLINDERS, STAINLESS STEEL HOSES, WITH VENT VALVE

Example Model Number: PDC350B-580N-2-SSH-VV

Standard Configuration (1x1) in inches Numbers between [] are in millimeters



Vent Valve Option (2x2) in inches Numbers between [] are in millimeters

