

**OPERATING and INSTALLATION**

**INSTRUCTIONS**

**FOR**

**HIGH PURITY SEMI-AUTOMATIC**

**CHANGEOVER MANIFOLD**

**914 Series**

**DESCRIPTION**

This semi-automatic changeover manifold is an easy to operate solution to providing an uninterrupted supply of gas to your instrumentation or process. A turn of the process knob resets the pressures automatically allowing the system to changeover in the reverse direction when needed. The feed and line regulators and the interconnecting valves are of high purity, metal diaphragm, diffusion resistant construction capable of passing a helium leak rate test of  $1 \times 10^{-9}$ .

The manifold is assembled using a central control section and a manifolded bank of cylinders on each side to provide the gas supply. A commonly used simple two station automatic manifold employs a central control section with a single pigtail installed on each inlet to connect one cylinder on each side as the supply sources.

## INSTALLATION

The manifold is mounted on a stainless steel bracket to help ensure that components are not twisted and develop leaks during handling and operation. The bracket is simply mounted to a wall or other structure using the four (4) holes provided (see dimensional drawing on page 4). Mount the manifold at a suitable height to allow the pigtails to be easily connected to the cylinder valves. After mounting the manifold follow these steps:

- a. Install the pigtails by connecting the CGA346 end to the manifold inlet. Your requested CGA connection will be on the opposite end.
- b. If you have purchased your system with the optional alarm system, the pressure switches installed in your system have been set to activate the alarm just prior to or as the changeover is taking place. These switches are factory set and cannot be field adjusted. **CAUTION:** Proper electrical connections must be made to maintain the weather tight integrity of the pressure switches. Failure to do so will cause premature failure of the switches and void all warranties.
- c. If you have purchased a P/N 914-AVA audio/visual alarm for use with your system please refer to the wiring schematic on page 5 for wiring details. The 914-AVA may be located next to the changeover or in another area entirely; within in reason there is no distance limit relative to the location of the changeover and the 914-AVA. The 914-AVA requires a standard 110VAC receptacle for power. This unit is not weather tight and must be mounted in a suitable location.

## WARNING!!!!

**Although the manifold has been leak tested at the factory, we strongly advise you to leak test the manifold thoroughly after installation in your facility to find any leaks that may have developed due to handling, transportation, or improper installation.**

## **OPERATION**

Follow the simple steps below for the initial set-up of your system.

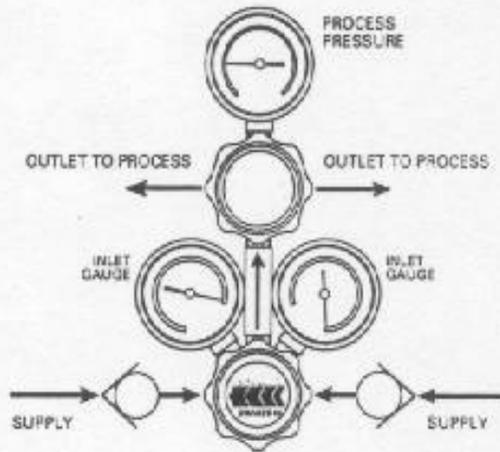
- a. Connect full cylinders to both sides of the manifold.
- b. Turn the handknob with the arrow to point to the right. *Slowly* open the cylinder valve on the right. The lower gauge on the right will indicate the pressure of the cylinder connected to the right side.
- c. *Slowly* open the cylinder valves on the left side. The lower gauge on the left will indicate the cylinder pressure of the cylinder connected to the left side.
- d. At this time the on-off valve that you installed down stream of the manifold should be closed.
- e. Adjust the pressure of upper regulator to the desired delivery pressure.
- f. When you are ready to operate open the down stream on-off valve.

The operation from this point is simple. When the operating cylinder pressure reaches the changeover pressure the system will automatically switch to feed gas from the opposite side. When this happens turn the lower handknob so that the arrow points to the now active side. You may now replace the empty cylinders. In order for the changeover to continue to operate correctly never open the valves on the replaced cylinders until the handknob has been turned to the active side.

Be sure to open the cylinder valves of the reserve bank so that it will be ready for the next changeover.

**ALWAYS OPEN CYLINDER VALVES SLOWLY TO PREVENT DAMAGE TO MANIFOLD**

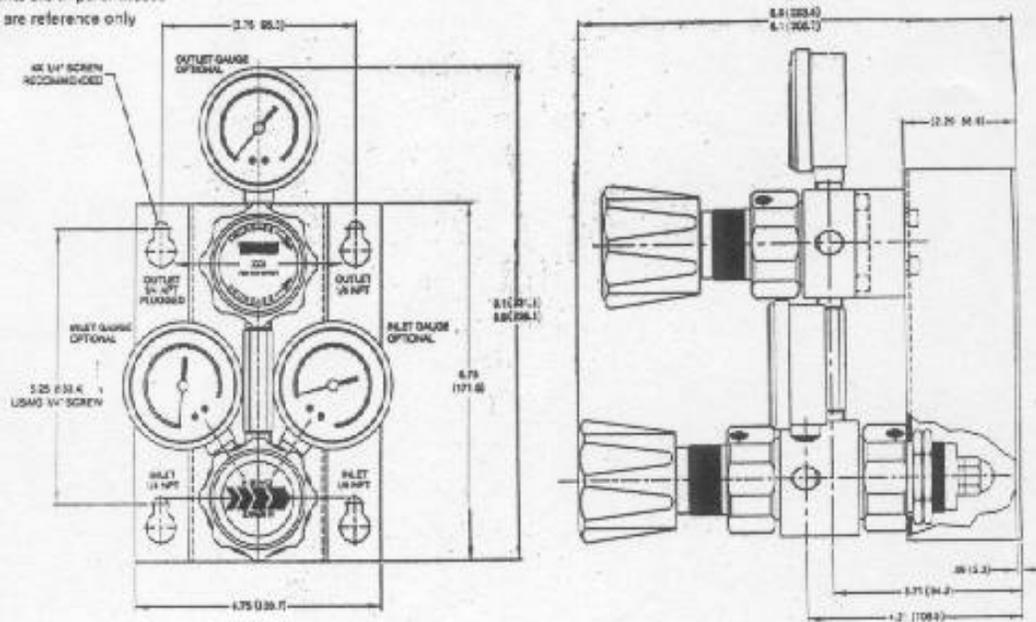
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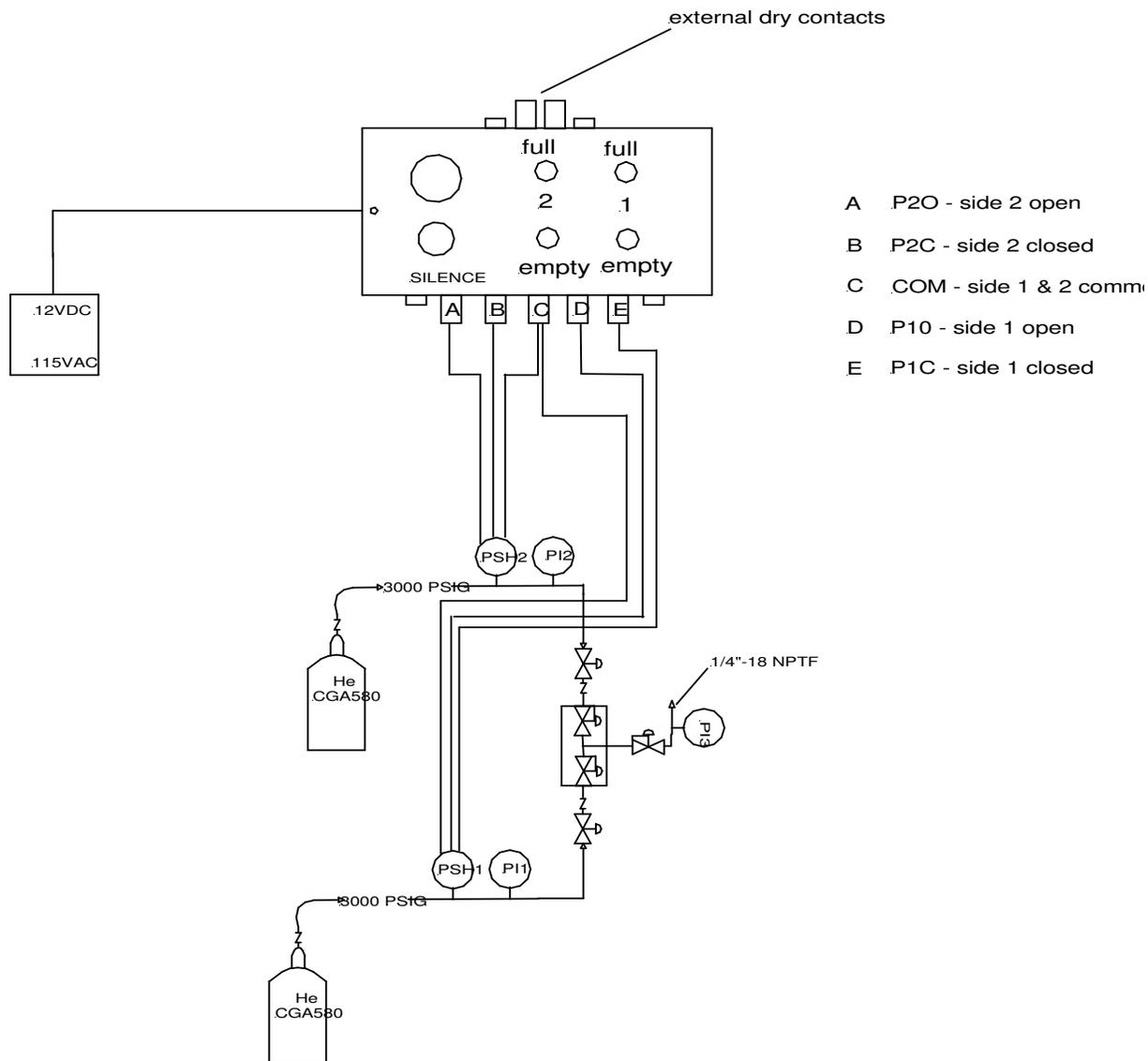
APPLICATION DIAGRAM

INSTALLATION DIMENSIONS

Metric Equivalents are in parentheses  
All dimensions are reference only



# TYPICAL 914 SERIES CHANGEOVER WITH REMOTE ALARM 914-AVA



PSH1, PSH2 PRESSURE SWITCH SET POINT @ 300 +/- 25 PSIG  
PI1, PI2 PRESSURE GAUGE 3000 PSIG  
PI3, PRESSURE GAUGE 200 PSIG

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