GENTEC 5600 Series Cryogenic Liquid Cylinders manifolds

Specification and Operation

5600 Series Cryogenic Liquid Cylinders manifolds is designed for cryogenic liquid cylinders. When primary liquid cylinder pressure drops to set point, the reserved cylinder starts to supply gas. This switchover is provided by a Switching Valve to achieve switching.

Specifications:

- Gas Service: Oxygen, CO2, Ar, He and Nitrogen
- Maximum Inlet Pressure: 500PSI (3.5MPa)
- Delivery Pressure Range: 5PSI~125PSI (0.03-0.85 MPa)
- Maximum Flowrate: 350 CFH (10 m^3/h): Liquid gas in liquid cylinder is evaporated into gaseous state with the built-in evaporator before leaving the bottle. Because of the limitation of the evaporator, the flowrate is less than 350 CFH (10m^3/h). Therefore, the flowrate cannot be higher than 350 CFH. Or the liquid gas will flow into the compressed gas regulator and causes freezing. (See the manual or instructions of cryogenic liquid cylinders production).

2. System Installation and Testing:

a. The system should be installed in a well ventilated area. No Fire and No Oil signs should be posted in the area.
b. The system should be purged clean with Nitrogen and tested for leaking before use. No oil is allowed.

3. Operation:

After the system is installed, the outlet pressure of both regulators needs to be adjusted with all valves are closed.

a. Slowly open both cryogenic liquid cylinders.
b. Slowly open the master valves (GENTEC GMV-180) on both sides.
c. Slowly adjust the left and right side of the pressure regulators. Pick left side or right side bank as primary bank. The other side will be reserved bank. Set the pressure (working pressure) of the primary bank regulator 25% higher than reserved bank. The primary bank will deliver the gas to outlet of the system.
d. When the pressure of the primary bank drops to lower than the reserved bank, the reserved bank will start to supply gas.
e. Raise the pressure of the reserved bank to the same as primary bank (working pressure).
f. Replace the empty cylinder of the primary bank with full cylinder and drop the pressure to 25% lower than reserved bank.
g. Now the previous primary becomes the new reserved bank and the previous reserved bank becomes primary bank. The following is an example:

If the working pressure is 80psi. Pressure of primary bank will be set at 80PSI. The reserved bank will be set at 60PSI (25% lower than working pressure, 80PSI). When the pressure of the primary bank drops to lower than 60PSI, the reserved bank will start to supply gas. Raise the pressure of the reserved bank to the 80PSI (working pressure). Replace the empty cylinder of the primary bank with full cylinder and drop the pressure to 60PSI (25% lower than working pressure 80PSI). Now the previous primary becomes the new reserved bank and the previous reserved bank becomes primary bank.