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| Spec No.: ES-PBUM-8952-01 | Date: January 03, 2019 |

NOTE TO SPECIFIER; This specification pertains to a fully automatic switchover high purity manifold, low pressure gas cylinder (350 psi max.) x high pressure gas cylinder (3000 psi max.).

* 1. MATERIALS
1. Manifold Box
	1. The cabinet–style manifold shall be specifically made and cleaned for high purity 350 psi liquid cylinder (gas withdraw) as main supply bank with a 3000-psi gas cylinder bank as reserve bank.
	2. Internal tubing shall be copper and fittings shall be made out of brass.
	3. All pressure reducing regulators shall be brass barstock with stainless steel diaphragms (neoprene diaphragm regulators are not acceptable).
	4. The manifold shall be designed so that when the automatic switchover from the primary low pressure bank to and from the reserve bank occurs with no drop in the line pressure.
	5. The switchover process shall be controlled pneumatically by pressure differential.
	6. The resetting of the manifold shall be accomplished automatically (no lever to rotate).
	7. The manifold shall be designed so that the main supply bank is always the low pressure (liquid cylinders – gas withdraw) side unless this bank is either depleted or too low in pressure. At that time, the high pressure reserve bank shall supply gas to the pipeline.
	8. The manifold shall have a minimum flow coefficient of Cv = 0.4 to allow for high flow peak demands.
	9. The manifold shall be equipped with a pipeline pressure relief valve with a setpoint no greater than 200 psig.
2. Alarm Box
	1. A low pressure alarm signal shall be actuated by a pressure switch installed in the manifold box (one pressure switch per cylinder bank).
	2. The alarm box shall be equipped with green and red lights indicating the status of each cylinder bank (adequate pressure or depleted).
	3. A buzzer shall sound when a bank is depleted.
	4. The buzzer shall be cancelled by a silence push button without canceling the red light.
	5. The alarm box shall actuate a dry contact for remote alarm connection.
3. Header Bar and Hoses
	1. The header bars shall be made from brass barstock.
	2. The header bars shall be cleaned for oxygen service and nickel plated to the outside (painted header bars are not acceptable).
	3. The hose lengths for the low pressure (main) bank and high pressure (reserve) bank shall be respectively 72”-long and 36”-long.
	4. All flexible hoses shall be suitable for high purity applications and compatible for the intended gas service.
	5. PRODUCT
4. Acceptable Manufacturer
	1. PBUM3500 Series (Brass Construction) as manufactured by BeaconMedaes.