

SPECIFICATIONS

Description The Automatic Pressure Intensifier is made up of three proven subassemblies: a Boost Pump, a Manifold System, and a Hand Loading Pressure Regulator.

The Boost Pump consists of a differential area piston, floating free within a housing which comprises the high and low pressure cylinder bores, and encircled by a spool valve which is positioned by, and according to, piston position within the bore. The spool valve controls the boost and vent cycling of the piston. On the vent cycle, gas used first for power is used for cooling by being discharged to atmosphere through a cooling jacket, which encloses the finned portion of the high pressure cylinder.

The Manifold System is comprised of two manifold blocks. The inlet components, consisting of an inlet pressure supply gauge and check valve mount on one block and the outlet components, which include a pressure gauge for registering boosted pressure, a check valve, and a pressure relief valve, are included on the other manifold block.

The hand-loader type Pressure Regulator is used to control pressure to the power piston. The Outlet Pressure Gauge monitors the amount of regulator load in terms of intensified outlet pressure.

All materials, seals, and lubricants contained in this assembly are fully compatible with general service media such as Argon, Nitrogen, Oxygen, Hydrogen, Helium, Carbon Dioxide, Breathing Air, Nitrous Oxide to provide safe, uncontaminated media at high working pressures.

Operation With the intensifier connected into the system or reservoir to be charged, supply pressure is introduced and allowed to stabilize. Both the inlet and outlet pressure gauges will now indicate the same reading.

The manually-loaded regulator is then adjusted until the desired outlet pressure is indicated on the outlet pressure gauge. The intensifier will begin to cycle automatically until adjusted pressure setting is reached. Thereafter, the intensifier will operate only to make up loss of pressure through demand or temperature stabilization.

To modify the unit for separate inlet and working media, the tubing, which connects the inlet manifold to the regulator, is removed and the manifold port is plugged. A safe inexpensive pneumatic media, such as shop air, etc., is plumbed directly into the regulator manifold and used as the power supply to drive the boost pump. This feature is extremely desirable when charging media is too expensive or harmful to vent in large quantities.

PRESSURES

Inlet.....Min 200PSIG
Outlet (Maximum).....7,000PSIG
Proof.....10,000PSIG
Burst (Minimum).....20,000PSIG

PORTS

Inlet.....Per MS33656-4 for 1/4" Line Size
Outlet.....Per MS33656-4 for 1/4" Line Size

CAPACITY

Area Ratio..... $\frac{3.75 \text{ Dia.}}{1.125 \text{ Dia.}} = \frac{11.0 \text{ in}^2}{.994 \text{ in}^2} = \frac{11}{1}$

Stroke.....2.70 inches
Effective Boost Ratio..... $\frac{10}{1}$

Displacement.....2.4 in³

WEIGHT.....15 lbs

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