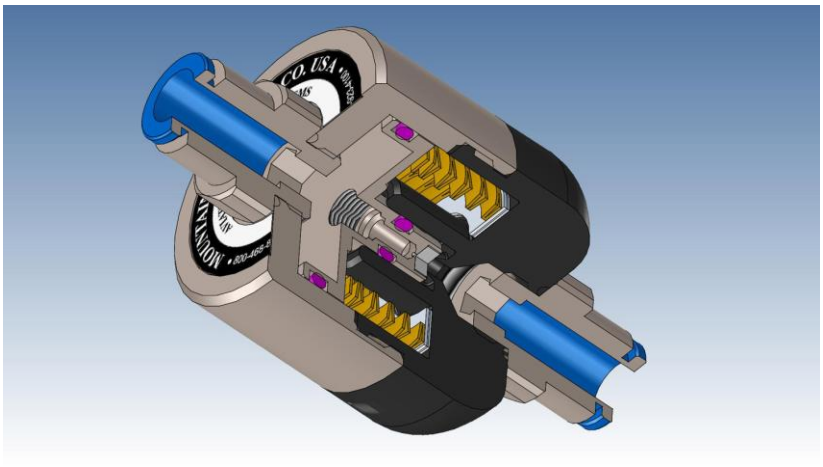
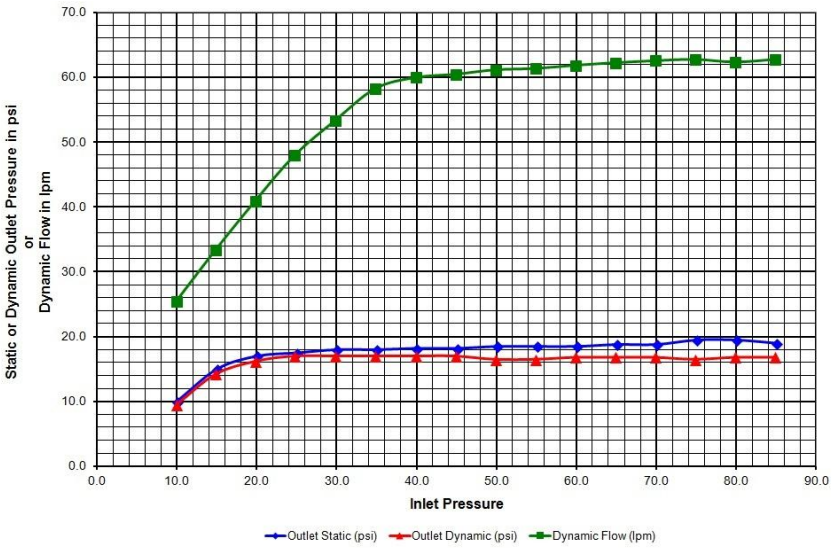
Inline Step-down Regulator Information Sheet

All of our regulators types are designed and built in the USA by MH Oxygen.





Our step-down pressure regulators have a virtually flat outlet pressure regulation curve for both lock-up (static) and flowing (dynamic) with inlet pressure from 20 to 85 psig. Flows of 40 to 60 liters/minute are measured through a controlled pneumatic resistance with inlet pressures of 20 to 85 psig. Target flows are 60 ± 5 liters/minute throughout the inlet pressure range of 35 to 85 psig.

The above specification results are providing that the system connected to it can produce at least 60 liters/minute between 35 to 85 psig dynamic flow.

EDS units only need to have a regulator that instantaneously delivers ~15 lpm per user to complement the needed amount of oxygen for pressure altitudes up to 18,000 ft.

Regulator Features Include:
Very consistent lock-up and flow pressure ranges and a large flow reserve throughout the pressure life of the cylinder. The regulator is made of a light-weight aluminum body with oxygen compatible brass and seat material in the critical wetted regulating/throttling high- pressure areas.

Wide operating temperatures range from -20 to +50 C. Special flat-wire double-helix spring design complements the gas dynamics and aging characteristics of the inlet seat to provide lock-up to dynamic pressures that are tightly matched for a piston type regulator design throughout its service life.

Our unique seat design provides a very fast response time to lock-up with a dampened, oscillation free high flow factor specifically designed for use with pulse demand systems.

Testing & Verification:
All of our regulators are 100% tested during assembly for multiple parameters before they are packaged and made ready for sale. Dynamic flow testing is performed with the regulator feeding though a mass flow meter at the end of 20 feet of 6mm O.D. 4mm I.D. tubing to guarantee that the regulator will properly operate the EDS units at 18,000 ft. with a cylinder pressure as low as 500 psig. Our oscillation-free flows are verified in both open and closed loop instantaneous flow tests.

Q: Why use a piston type pressure regulator and not a diaphragm type regulator as seen in medical equipment?

A: Piston-type compressed gas regulators are well known for being low-cost, rugged, light-weight and serviceable with standard assembly practices. Additionally, they have the ability to ingest small particles at extreme temperatures while still performing well within specifications. Their simplicity allows for quick diagnostics and repairs even in the field.

Diaphragm regulators are known more for their precision and high-cost, but are sensitive to harsh environments making them more suited for stationary and controlled indoor applications. Because they usually do not have suitable lock-up to flow pressure characteristics, are larger and heavier, they are usually unsuitable for pulse-demand systems.

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