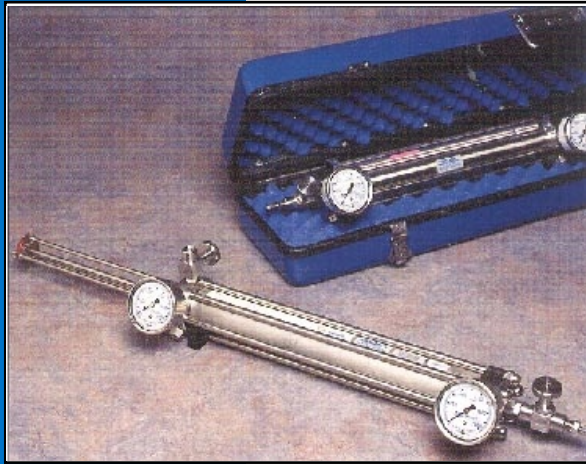


WELKER®

Engineering Company

ISO-9001
CERTIFIED
SINCE 1992



Welker CP2 Constant Pressure Cylinder

Welker Engineering Company manufactures the most versatile and respected line of constant pressure sample cylinders in the Oil and Natural Gas industry.

Originally designed for the transportation of light liquid hydrocarbon samples in the early 1970's, our constant pressure cylinders are today widely recognized and utilized for their outstanding transport of two-phase gas samples, natural gas, and specialty gas products. Besides maintaining samples at pipeline pressure, the cylinders provide superior vortex mixing action - all in a compact, manageable, easy to use package.

At Welker Engineering Company, quality and craftsmanship in both construction and design are most important. All of our constant pressure cylinders are designed with a standard 4-1 safety factor, unequalled in the industry. Constructed of 316 SS and honed to 2-4rms, Welker CP2 cylinders give years of dependable service and quality results.

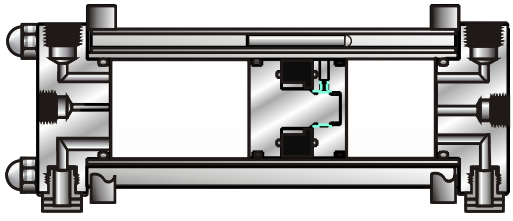
How do I work?

Designed with an internal piston and seals, the CP2 cylinder is pressured with an inert gas supply, and then turned around and filled slowly from the opposite end. By letting the gas push against the piston, slowly venting the pre-charge gas, the sample is taken at full line pressure from start to finish. Then, in the laboratory, a gas supply could be connected to the pre-charge side equal to the pipeline pressure. As the sample gas is injected into the chromatograph, the piston is being pushed by the pre-charge gas. While the cylinder is being emptied, full pressure is being maintained and the gas composition is not being altered as a result of pressure reduction. The cylinder can be stored or sent to another laboratory for confirmation, and when the remaining gas is analyzed, it will give repeatable results, because the condition of the gas is maintained by the constant pressure cylinder. The cylinder is equipped with valves, safety reliefs, and gauges on both ends and thus the pressure can be controlled and monitored at all times on both ends.

This procedure has proven to give extreme accuracy in both spot sampling procedures as well as in automatic sampling systems. The Constant Pressure Cylinder has been tested against laboratory and on-line chromatographs, and has shown to maintain the integrity of the sample to within 1/2 BTU of the pipeline gas. No other cylinder design comes close.

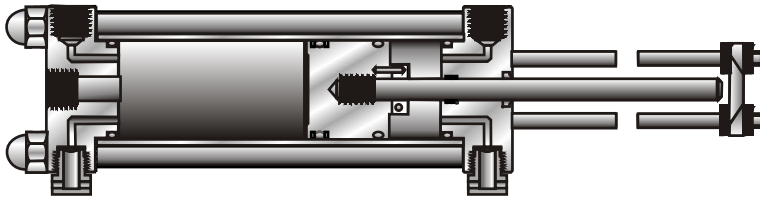
Welker Engineering Company manufactures a complete line of Constant Pressure Cylinders from 150 psi through 15,000 psi working pressure, volumes from 10ml up to 35 liter, and materials including 316 Stainless Steel, Titanium, Hastelloy, Inconel and Aluminum. Many of these cylinders carry DOT approval, DNV type approval, DOT Canada, TUV, Stoomveizen and other approvals, and all are designed according to ASME section 8 Pressure Vessel Code Criteria. Sulfinert and Chembar passivation coatings are available for high sulfur applications. Call for details.

Welker Constant Pressure Cylinder



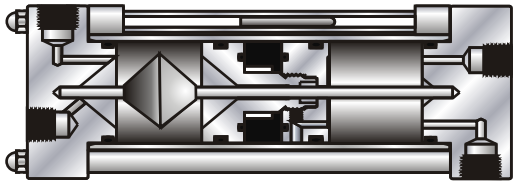
CP2-G

This cylinder utilizes a pin tracker to provide positive reference to the location of the piston. The tracking system is highly resistant to heat and chemical attack, and may even be used at moderate oven temperatures. Convenient size and ease of use make this cylinder ideal for the collection and transport of natural gasses. A must for High Hydrocarbon Dew Points!



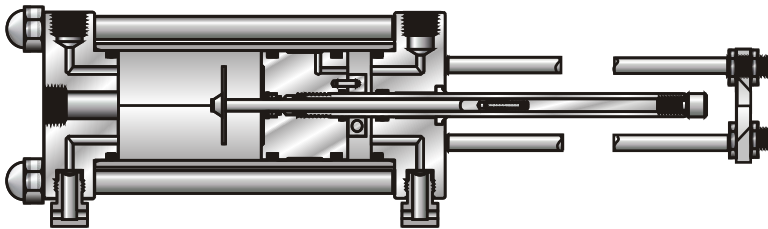
CP2-SI

Quick, easy to read capacity reference and ease of use typify this constant pressure sample cylinder. An indicating rod and an 80% of capacity indicating tower provide positive reference to the location of the piston. T-handle can be easily attached to indicator rod for syringe style use.



CP2-GM

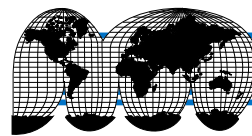
This cylinder offers both convenient size, with its short overall length, and a gravity action mixer. The stainless steel mixer works in conjunction with the cylinder saver rod; mixing is accomplished by inverting the cylinder several times. The mixer slides along the cylinder saver rod, eliminating any contact with the cylinder wall. The piston is tracked by a pin tracker. Great cylinder for transporting light liquids and hydrocarbons when stratification and/or space are concerns. Used extensively by Specialty Gas Companies for chromatograph standard mixes.



CP2-M

Ease of use and superior mixing action make this the most respected mixing cylinder available. The CP2-M features an indicating rod with an 80% of capacity indicating tower for quick and positive reference to the collected volume and a mixer with vortex action for complete mixing of stratified product.

The pistons, end caps, indicating rods, mixers, tie rods, and nuts are all fashioned from 316 stainless steel. The cylinder is also constructed of 316 SS. The stainless steel construction of our constant pressure sample cylinders gives them excellent resistance to corrosion and exceptional longevity. CP2 style cylinders are available in standard sizes from 100cc to 1000cc; custom sizes and materials are available upon request. Welker CP2 cylinders are D.O.T. approved, exemption number DOT-E 7657.



WELKER[®]
Engineering Company

P. O. Box 138 Sugar Land, TX 77487-0138
Phone: 281-491-2331

Domestic Fax: 281-491-8344 International Fax: 281-242-5623
Email: prosamp@welkereng.com Web Site: www.welkereng.com

1-800-PRO-SAMP