

Constant Pressure Cylinders

It has been determined by DCG Chemists that the Constant Pressure Cylinder (CPC) provides the most repeatable, consistent and accurate means to store and calibrate with multi-phase Calibration Standards in the laboratory and field analytical applications. DCG specially prepared CPC's are in use worldwide assisting chemists to make critical analytical decisions affecting many aspects of the hydrocarbon industry. From process control to the sale of products DCG CPC's are used when the critical analyses are required.

Multi component hydrocarbon standards can change composition during storage and use due to preferential vaporization of lighter weight, volatile hydrocarbon components and dissolved inert gases. To minimize these changes it is extremely important to carefully select cylinder type, cylinder volume and which inert gas is used to pressure the cylinder. These factors must be considered in order to ensure that composition changes are minimized so as to maintain the integrity of calibration standard to be used as Quality Control Calibration Standard for various analytical test methods.



The CPC's are composed of two chambers separated by a leak tight piston. The first chamber, the Pre-charge Side, is for the pressure pad and the second, the Product side, is for the standard. While the product chamber must be equipped with a mixing device.

DCG always recommends using a mixing device. Although the calibration standard is in a leak tight chamber the standard will stratify in the cylinder. By properly mixing the standard prior to injecting into the analyzer and maintaining a proper pressure pad during injection the sample will remain homogenous and be representative of the product stream or calibration standard.* Uniformity between analyses generates fewer analytical runs and provides the added benefits of highly repeatable analyses and increased laboratory production.



DCG Spec-Brief™

Consult the following Spec's for related Applications:

[SB-101 Natural Gas Liquids](#)

[SB-120 1400 Series High Pressure Regulator](#)

[SB-121 492 Series Ultra-High Pressure Regulator](#)

[SB-123 452 Series Stainless Steel Vaporizing Regulator](#)

Due to highly accurate and precise repeatability of analyses when using CPC's the monitoring of precision and bias on Instruments through the use of control chart techniques can be used to establish the need for calibration or maintenance with great certainty.



RECOMMENDED APPLICATIONS **ASTM Standards**

D1265 Practice for Sampling Liquefied Petroleum (LP) Gases, Manual Method

D2163 Test Method for Determination of Hydrocarbons in Liquefied Petroleum (LP) Gases and Propane/Propene Mixtures by Gas Chromatography.

D3700 Practice for Obtaining LPG Samples Using a Floating Piston Cylinder

D6299 Practice for Applying Statistical Quality Assurance and control charting Techniques to Evaluate Analytical Measurement System Performance.

This practice covers the equipment and procedures for obtaining a representative sample of specification liquefied petroleum gas (LPG), such as specified in Specification

D1835, **GPA 2140**, and comparable international standards. It may also be used for other natural gas liquid (NGL) products that are normally single phase (NGL mix, field butane, and so forth), defined in other industry specifications or contractual agreements



**DCG Partnership 1,
Ltd.**

4170A S. Main St. Pearland, TX
77581

281-648-1894, Option 1

www.dcgpartnership.com