



U.S. Patents 7,225,690; 7,555,965

Applications

- ▶ Spot & Composite sampling of natural gas at/near its dew point or in low ambient temperature conditions
- ▶ Direct replacement for constant pressure cylinders used for collecting, storing, and transporting natural gas samples in any process industry including natural gas, petrochemical, and oil refining
- ▶ Sampling low pressure or atmospheric pressure sources

Benefits

- ▶ No “special permit” documentation required for transport
- ▶ No cylinder purging required (with “Constant Pressure” or “Line Purge and Cylinder Fill” methods)
- ▶ Minimal cleaning required
- ▶ No external cylinder valves required
- ▶ Minimizes chance of valve damage
- ▶ Helps to capture an accurate sample
- ▶ Quick and easy internal inspection
- ▶ One time cylinder fill reduces sampling time
- ▶ Minimizes emissions
- ▶ Simple sampling procedure
- ▶ Saves on shipping cost

Features

- ▶ DOT-3E-1800 and API 14.1 approved
- ▶ Head and bowl design
- ▶ Integral recessed, screwdriver operated valves
- ▶ Inert, disposable Tedlar® bag
- ▶ Shorter and weighs less than most 300cc constant pressure cylinders
- ▶ Optional low volume, Cylinder Manifold
- ▶ 316SS Construction

Quick Study

The Q² Sample Cylinder™ is an innovative DOT-3E 1800 sample cylinder specifically designed to sample natural gas at or near its dew point or in low ambient temperature conditions. The cylinder has undergone rigorous testing sponsored by the Pipeline Research Council International (PRCI). The sampling test protocol was according to API 14.1, Appendix F and the conditions of the test were such that both the ambient temperature conditions and the sampling equipment’s temperature were below the hydrocarbon dew point of the source gas. The tests concluded that the Q², Cylinder Manifold, and “Line Purge and Cylinder Fill” sample method satisfied API’s repeatability and reproducibility criteria. As such, the Q² conforms to the API 14.1 industry standard.

The Q²’s most unique features, the integral recessed valves and cylinder bag, combine to eliminate common sample distortion problems associated with conventional cylinders resulting from damaged valves or cylinders that have not been properly cleaned, purged, or prepared. The disposable bag is an inert barrier that can be easily collapsed to eliminate cylinder purging, the most common source of error in spot and composite sampling, and reduce sampling time. Only the bag and a small, easily accessible area inside of the cylinder head come in contact with the sample, saving cleaning time and removing the risk of sample distortion due to residuals. The cylinder’s valves are recessed and integrated into the head to minimize the volume of the sample path and to prevent them from being damaged during transportation.

The “Line Purge and Cylinder Fill” method* is preferred for use with this cylinder; however, the constant pressure method can also be used. A cylinder manifold is recommended for use with the Q² cylinder to minimize and easily purge the sample path volume between the process valve and the Q². Use of the manifold ensures that the sample path is purged all the way up to the ball of the cylinder inlet valve. The 1/16” diameter passageway of the cylinder manifold is purged quickly and prevents any liquids from accumulating as they will be swept through the passageway and exit out through the manifold purge valve, which is out of the sample flow path. After the sample path has been purged, the Q² can then be filled with a representative sample in a one fill cycle.


* Refer to the Line Purge and Cylinder Fill Application Brief to learn more about this sampling method.

Technical Specifications

Maximum pressure rating	1,800 psig
Maximum sustained temperature	225 °F (107 °C) with cylinder bag
Minimum sustained temperature	-15 °F (-26 °C) with Viton o-ring
Port sizes	Inlet and Outlet: 1/4” female NPT
Internal volume	300 cc
Wetted materials	Machined parts: 316 stainless steel / NACE compliant All other metal parts: stainless steel / NACE compliant Cylinder bag: Tedlar® Sealing material: Viton® standard


Model Numbering & Additional Part Numbers




Your model number is determined by your specific needs. Choose options below.

Sealing material 	0 = Viton® (other materials available upon request)
Accessory manifold	Part# = 310-ACC-M7 (0-2000 gauge included - other gauges available upon request) (sold separately)
Sample Cylinder™ case	Part# = 310-CASE (sold separately)
Cylinder bag replacement	Part # = 310-5X1 (5 bags per kit) (sold separately)
O-ring replacement	Part # = 310-500 (sold separately)

How to build the model number:

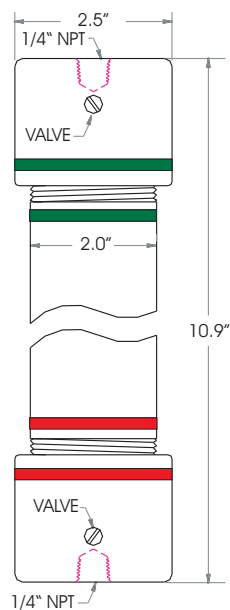


 Sealing material

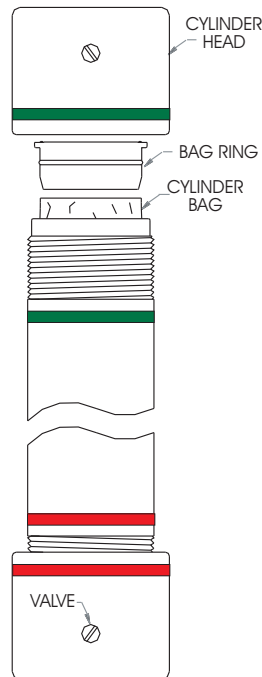
 We cannot recommend specific sealing materials due to the complex nature of sample stream compositions. Temperature and pressure also may be factors.
 Unless specified otherwise, the product will ship with our standard sealing materials and materials of construction stated in the technical specifications section of the corresponding Product Sheet.  Please refer to www.dupontelastomers.com for sealing material recommendations and advice. It is the user's responsibility to specify the sealing materials and other materials of construction for their application.

Dimensions

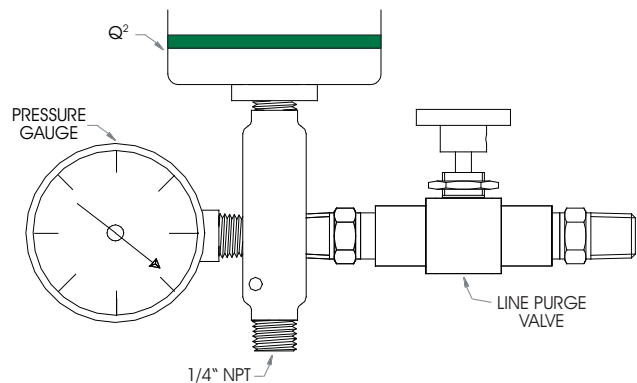
Assembled



Disassembled



Manifold View



Local Distributor:



An ISO 9001:2000 certified company

Manufacturer

A+ Corporation, LLC

41041 Black Bayou Road

Gonzales, LA 70737

Call for expert product application assistance:

Phone: (225)-644-5255 Website: www.geniefilters.com

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