

## Primary Standard High Flow

## Gas Calibrators

## For Mass and Volume

### Features

- **Superior Accuracy:**  
+/- 0.25% Reading Mass Flow
- **Primary standard: Dimensionally based piston prover system**
- **Range: 5 slpm to 500 slpm**
- **Quality: Manufactured to ISO 17025 standard at NIST-accredited lab (NVLAP)**
- **Fast: Readings in 1-60 seconds (flow dependent)**
- **Easy: Operate with one button using Automatic Mode!**
- **Versatile: Ideal for calibration of mass flow meters and controllers**
- **Safe: No mercury or other hazardous materials**
- **System: Compatible with Cal=Soft Software for data collection and integration into an automated Calibration System**
- **CE Approved**

**SIERRA**<sup>®</sup>  
**INSTRUMENTS**  
THE MASS FLOW COMPANY



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For information online...

[www.sierrainstruments.com](http://www.sierrainstruments.com)

# CAL=TRAK<sup>™</sup> XL



### Description

**S**ierra's Cal=Trak<sup>™</sup> XL is the leading high flow primary gas flow calibrator. With increased demand for higher flows of process gas, there is a requirement for a way to validate and calibrate high flow gas meters and controllers. Cal=Trak XL meets that need with an impressive standardized accuracy of +/- 0.25% of reading over a flow range of 5 to 500 slpm!

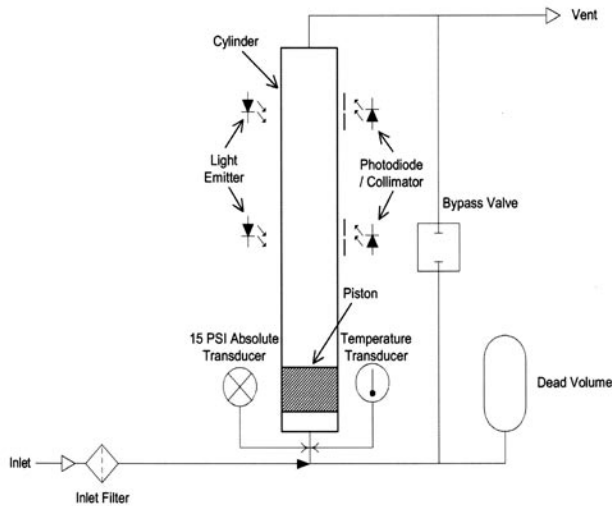
Like all members of Sierra's Cal=Trak<sup>™</sup> family of products, Cal=Trak<sup>™</sup> XL is a primary standard piston prover that operates with the press of a button—assuring you the ultimate in calibration accuracy, convenience, ease-of-use, low-maintenance, and productivity. The performance of the highest level metrology laboratories can now be a part of your own lab, at flow rates up to 500 slpm.

## Why a Primary Standard?

Primary standards are characterized by the most basic of quantities (i.e. time and distance) unlike transfer or secondary standards, such as laminar flow elements or flow meters. This guarantees that the main objective of any calibration is met: reliable, accurate measurements.

## Operating Principle

Sierra's Cal=Trak™ XL contains a nearly frictionless graphite piston that moves freely inside a borosilicate glass tube. When the parallel bypass valve is closed, the gas flow is directed into the tube to push the piston up. The principle is the same as used on Sierra's Cal=Bench™ bell provers, but Cal=Trak™ XL makes superior measurements in an easy-to-use bench-top package. Inside Cal=Trak™, two photo-optic sensors detect the piston as it travels past. The distance the piston travels between the two sensors is precisely defined and represents a known volume. Accurate crystal-based timers drive a micro-processor which calculates the rate of rise. This defines the volumetric flow rate. At the same time, extremely accurate temperature and absolute pressure sensors collect data used to convert volumetric flow to the mass flow rate.



## Calibration System

Avoid costly outsourcing of flow meter calibration by calibrating your instruments yourself with Cal=Trak™ XL! Cal=Trak™ XL calibrators offer digital communications via RS-232. Sierra's included Cal=Soft™ software can be used to record the calibration data and print out calibration certificates from your calibrator. When you integrate your Cal=Trak™ XL with a Sierra Smart-Trak® mass flow controller and Cal=Soft™ software, an automated calibration system can be created for maximum productivity. Please contact us for more information

## Specifications

**Accuracy:** +/- 0.25% of Reading from 5 to 500 slpm  
**Gas Compatibility:** Non-corrosive, non-combustible gases, less than 70% humidity, non-condensing  
**Operating Modes:** Single, Continuous, or Burst with averaging function, positive pressure or vacuum  
**Interface:** Graphic LCD display and RS-232 serial (compatible with Cal=Soft™ software, included)  
**Operating Temperature:** 15-30C  
**Temperature Accuracy:** +/- 0.2 degrees C  
**Operating Pressure:** 4 PSI (270 mbar) Differential maximum  
**Pressure Accuracy:** +/- 0.05% of Full Scale  
**Inlet/Outlet Connection:** 1.5" Swagelok® compression  
**Overpressure Release:** 1/2" Swagelok® compression  
**Purge Fittings:** 1/4" Swagelok® compression  
**Valve:** Pneumatic, requires air supply of 80-100 psig via 1/4" Swagelok® compression fitting  
**Power Supply:** included  
**Power Requirements:** 100-240 VAC, 1.6 A (max), 50-60 Hz  
**Warranty:** 12 months

## Physical Dimensions

**Height:** 33 inches (840 mm)  
**Width:** 24.6 inches (630 mm)  
**Depth:** 12 inches (300 mm)  
**Weight:** 90 lbs (41 kg)



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