

DryCal[®]

Gas Flow Calibrators

Bios
international

Primary gas flow measurement made simple.

Who We Are

Bios International Corporation is the world leader in primary gas flow calibration. Since 1990, we've relied on our trademark ingenuity to provide superior – yet simple – primary flow calibration solutions. Today, with over 20,000 units in the field, the DryCal primary standard is the market leader in low gas flow measurement, catering to an extensive client base and a wide range of installed applications.

As a leading local employer and family owned and operated business, we're proud of our people and our community. We manufacture and test all DryCal primary standards in our Butler, New Jersey facility, and perform all calibrations in our ISO 17025 accredited metrology laboratory using state of the art measurement tools.

Our commitment to quality runs deep, and rest assured we'll be there for you down the stretch. We've fostered a reputation of excellence with our customers by supplying a durable, reliable product backed by top-notch service and support. Ask around and you'll see why you can count on DryCal metrology – both today and tomorrow.

What We Do

We make primary flow calibrations simple. Built on patented DryCal metrology, Bios primary standards are the fastest, easiest and most dependable primary flow measurement tools on the market. That's because we've designed DryCals with two overarching principles in mind: precision and accessibility.

You can expect DryCals to be stable, accurate primary standards, designed to meet specification every time you call on them. They are simple to operate, enabling consistent, positive results in both routine and non-routine calibration situations.

DryCals are **truly** accessible: portable, on hand when and where they're needed. DryCals are easily hand-carried from the metrology lab to the shop floor, packed in a suitcase, slipped into a briefcase, or flown to a Hong Kong satellite site for a critical test – while remaining within calibration.

A Top-Rated Flow Lab

Bios International's metrology lab is the core of our business. As manufacturer of the world's most accurate primary standards, our lab must be second to none. To achieve this lofty goal, we went to NIST directly, to its National Voluntary Laboratory Accreditation Program, seeking ISO 17025 accreditation. We wanted world class validation of our core metrology, and we wanted to make sure the products we bring to market meet current and future global ISO requirements.

The result? The world's best private sector ISO 17025 scope of accreditation for gas flow granted by one of the world's elite national laboratories. Covering gas flows of 5 to 50,000 sccm at an outstanding $\pm 0.076\%$ of reading, our master standards cannot be matched anywhere in the private sector, for any price.

And, because DryCals are shippable via common carrier, annual calibrations can be quickly and precisely performed in our metrology lab, eliminating costly on-site calibrations.

DryCal DC-Lite, Nexus, & DC-2

When you think of $\pm 1\%$ flow calibrations, think of the market leader: think DryCal.

At the heart of the DryCal range you'll find the $\pm 1\%$ portable primary calibration standards comprised of the DC-Lite, its companion Nexus module, and the original DryCal, the DC-2. With thousands of these little workhorses in the field, the DryCal $\pm 1\%$ line have exceeded all expectations in portability and simplicity and have revolutionized more than one industry.

Equally at home in the R&D lab, on a workstation, or at the side of a certified industrial hygienist during air sampling audits, the DryCal $\pm 1\%$ line are the de facto standards for primary flow calibrations at this level of uncertainty. Nothing beats the DryCal with its broad range, tremendous turndown, and ability to maintain calibration stability in the face of rough field use. When you think of $\pm 1\%$ flow calibrations, think of the market leader: think DryCal.



DryCal DC-Lite

Our most popular calibrator: the volumetric standard in primary field flow calibration and the ideal traveling tool. The DC-Lite is smaller, faster, and easier-to-use than anything before it. Its compact all-in-one design is available in five flow models for the ultimate in quick, transportable accuracy.



DryCal Nexus

The DC-Lite's little companion. Simple, unobtrusive, yet effective. Whether conveniently serving as your DC-Lite's data-logging and storage module or instantly applying temperature and barometric pressure corrections to your DC-Lite's volumetric readings, the Nexus powerfully expands your calibration capabilities.



DryCal DC-2

A serious-looking calibrator with a serious purpose: accurate, defensible volumetric and standardized calibrations at the push of a button. The DC-2 provides instant temperature and pressure corrections, its three interchangeable flow cells covering a broad measurement range.

The Met Lab Series

Accurate and Defensible Flow Measurements

Our world is progressing at a rapid pace, and the applications driving it are increasingly critical. Precision flow measurement is now a necessity. With potentially millions of dollars on the line each day, flow measurement has become mission critical. It's more important than ever to have a standard to match the importance of the job at hand, and now you can: Bios is proud to introduce our Met Lab family of high accuracy primary standards.

DryCal's Met Lab series of products provide a cost-effective means of precisely measuring gas flow in countless applications while maintaining primary, accurate, and defensible flow measurements traceable to NIST. Built using the latest composite materials, yet based on a platform that's been proven for over a century, DryCal gives you the confidence to perform on-site flow measurements quickly and accurately.

In keeping with our design philosophy, even our premium primary standards follow a universal DryCal theme: keep it simple!

Portable Primary Standards

The ML Series is the next generation in primary gas flow measurement. In a market dominated by bell provers, mercury-sealed pistons and secondary standards marketed where only primary standards should, Met Lab calibrators take a quantum leap forward in measurement stability, reliability, precision and – above all – simplicity. DryCal is the first and the definitive push button flow standard, its hands-free operation enabling users to take multiple readings quickly and automatically while performing any necessary adjustments to the device under test.



DryCal ML-350, ML-500, & ML-800

Laboratory accuracy...to go!

Whether equipping a fixed-site laboratory, outfitting a mobile calibration lab, or addressing a pivotal flow measurement application, the DryCal ML Series of primary standards are ideal wherever lowest combined standard uncertainties are a necessity. Every ML product offers your choice of three flow ranges, each with an amazing 100:1 turndown: just a couple reasons why our DryCal ML Series flow measurement standards are versatile, all around performers.



Precision: ML-350

$\pm 0.75\%$ of reading combined standard uncertainty

The ML-350 offers all-in-one convenience as a check standard where sub-1% accuracy is required, but field portability is still the ultimate concern. Packed into its fitted carry bag and slung over the shoulder, the DryCal ML-350 offers the convenience and portability of a digital multi meter while remaining one of the most accurate primary flow standards available.



High Precision: ML-500

$\pm 0.40\%$ of reading, combined standard uncertainty

The DryCal ML-500 provides balance between the highest accuracy applications and those requiring lower uncertainty than the ultra -portable ML-350. Perfect for checking mass flow controllers, flow meters, rotameters and fleets of $\pm 1\%$ DryCals, the ML-500 offers the traceability you need at a price you can afford.



Ultra-High Precision: ML-800

$\pm 0.15\%$ of reading, combined standard uncertainty

The DryCal ML-800 is the consummate flow measurement solution with accuracy that is, in a word, extraordinary. Sporting the lowest measurement uncertainty of any commercially-available gas flow standard, the ML-800 is perfect for mission critical calibrations.

A DryCal for Every Application

DryCal Line Overview

	DCL-L	DCL-ML	DCL-M	DCL-MH	DCL-H	DC-LC-1	DC-MC-1	DC-HC-1
Flow Range Optimum	10–500 ccm	50–2,000 ccm	100–7,000 ccm	200–20,000 ccm	500–30,000 ccm	10–300 ccm	100–5,000 ccm	500–30,000 ccm
Flow Range Extended	•	2,001–5,000 ccm	7,001–12,000 ccm	•	•	301–500 ccm	5,001–10,000 ccm	30,001–50,000 ccm
Volumetric Accuracy Optimum	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
Volumetric Accuracy Extended	•	±3.5%	±1.25%	•	•	±2.0%	±2.0%	±1.5%
Standardized Accuracy	•	•	•	•	•	(±0.4% [†])	(±0.4% [†])	(±0.4% [†])
Weight (oz.)	40 oz.	40 oz.	40 oz.	40 oz.	40 oz.	51 oz.	51 oz.	51 oz.
Weight (g)	1134 g	1134 g	1134 g	1134 g	1134 g	1400 g	1400 g	1400 g
Dimensions H x W x D in inches	5.25 x 5 x 2.75 in	5.25 x 5 x 2.7 in	5.25 x 5 x 2.7 in	5.25 x 5 x 2.7 in	5.25 x 5 x 2.7 in	7.25 x 5.25 x 9.5 in	7.25 x 5.25 x 9.5 in	7.25 x 5.25 x 9.5 in
Dimensions H x W x D in mm	133 x 27 x 70 mm	133 x 27 x 70 mm	133 x 27 x 70 mm	133 x 27 x 70 mm	133 x 127 x 70 mm	197 x 133 x 241 mm	197 x 133 x 241 mm	197 x 133 x 241 mm
All in One Design?	Y	Y	Y	Y	Y	N [‡]	N [‡]	N [‡]
Battery or Line Op.	Y	Y	Y	Y	Y	Y	Y	Y

[†] With a DC-2 base, add 0.4% to volumetric for standardized accuracy

[‡] Must be used in conjunction with product base unit



DC-Lite



DC-2

ML-350-10	ML-350-24	ML-350-44	ML-500-10	ML-500-24	ML-500-44	ML-800-10	ML-800-24	ML-800-44
5–500 sccm	50–5,000 sccm	500–50,000 sccm	5–500 sccm	50–5,000 sccm	500–50,000 sccm	5–500 sccm	50–5,000 sccm	500–50,000 sccm
•	•	•	•	•	•	•	•	•
±0.5%	±0.5%	±0.5%	±0.25%	±0.20%	±0.25%	•	•	•
•	•	•	•	•	•	•	•	•
±0.75%	±0.75%	±0.75%	±0.40%	±0.35%	±0.40%	±0.15%	±0.15%	±0.15%
72 oz.	72 oz.	72 oz.	133 oz.	133 oz.	133 oz.	160 oz.	160 oz.	160 oz.
2053 g	2053 g	2053 g	3747 g	3747 g	3747 g	4561 g	4561 g	4561 g
7.75 x 6 x 3.75 in	7.75 x 6 x 3.75 in	7.75 x 6 x 3.75 in	13.5 x 5.25 x 10.5 in	13.5 x 5.25 x 10.5 in	13.5 x 5.25 x 10.5 in	17 x 6 x 10.625 in	17 x 6 x 10.625 in	17 x 6 x 10.625 in
197 x 152 x 95 mm	197 x 152 x 95 mm	197 x 152 x 95 mm	343 x 133 x 267 mm	343 x 133 x 267 mm	343 x 133 x 267 mm	432 x 152 x 270 mm	432 x 152 x 270 mm	432 x 152 x 270 mm
Y	Y	Y	N [†]	N [†]	N [†]	N [†]	N [†]	N [†]
Y	Y	Y	Y	Y	Y	Y	Y	Y



ML-350



ML-500



ML-800



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