- # Defender 510
  Volumetric Primary Flow Standard

- # Defender 520
  Enhanced Volumetric Primary Flow Standard

- # Defender 530
  Standardized and Volumetric Primary Flow Standard

Bios Defender 500 Series

Turn the Defender on. Connect it to your pump. Take measurements. It's that simple.

Instantly calibrate your air samplers using Quick Start – there is no preparation involved, no messy soap bubble solutions. Or, set your Defender to take hands-free, continuous measurements while you quickly set the flow rate on your pumps. Defender's many user-selectable options makes customizing your calibrations easy, giving you exactly what you need in the format you prefer. All you have to do is choose between the 510, the 520 or the 530.

		Defender 510	Defender 520	Defender 530
Model and Flow Ranges		510L, 5-500 ccm 510M, 50-5000 ccm 510H, 300-30,000 ccm	520L, 5-500 ccm 520M, 50-5000 ccm 520H, 300-30,000 ccm	530L, 5-500 ccm 530M, 50-5000 ccm 530H, 300-30,000 ccm
Volumetric Accuracy		1%	1%	1%
Standardized Accuracy		N/A	N/A	1.2%
User selectable Measurement Units	Volumetric	mL/min, L/min, cc/min, cf/min	mL/min, L/min, cc/min, cf/min	mL/min, L/min, cc/min, cf/min
	Standardized	N/A	N/A	smL/min, sL/min, scc/min, scf/min
	Temperature	N/A	°C °F	°C °F
	Pressure	N/A	mmHg, PSI, kPa	mmHg, PSI, kPa
Temperature and Pressure Sensor		No	Yes, in flow stream	Yes, in flow stream
	Pressure	N/A	3.5 mmHg (typical) 7.0 mm (max)	3.5 mmHg (typical) 7.0 mm (max)
	Temperature	N/A	0.8° C (typical) 1.3° C (max)	0.8° C (typical) 1.3° C (max)

PROVEN
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TECHNOLOGY

Bios
Driving a Higher Standard
in Flow Measurement[SM]

Defender 500 Series

Approximate Time per reading	1-15 seconds
Reading Styles (with averaging function user-selectable from 1 to 100 measurements)	Single (manual), Continuous or Burst
Gas Compatibility	non-corrosive gases, non-condensing, less then 70% humidity
Flow Modes	Pressure or Suction
Measurement Cell Style	Integrated
AC Adapter/Charger	12V DC, > 250ma, 2.5mm center positive
Battery System	6v rechargeable, sealed lead-acid, 6-8 hrs typical operation
Battery Operational Time (5 cycles/min)	3 hours backlight on, 8 hours backlight off
Pressure and Suction Fittings	¼" ID Hose Barb
Warranty	1 yr (battery 6 mo)
Storage Temperature	0-70° C
Ambient Humidity	0-70%, non-condensing
Operating Pressure (Absolute)	15 PSI
Display	backlit graphical LCD
Data Port (for use with Optimizer Software)	Serial - RS-232
Data Cable (for use with Optimizer Software)	1 meter Defender to PC included
Protective Case	Soft or Pelican case available
Dimensions (H x W x D)	5.5" x 6" x 3" / 140 x 150 x 75 mm
Weight	29 oz / 820 g
RoHS- and CE-compliant	

The Bios facility in Butler, N.J., (pictured above) is the only NVLAP accredited ISO 17025 laboratory serving the occupational health and safety industry. With the lowest gas flow measurement uncertainties of any commercial laboratory, Bios provides you with the legal protections and peace of mind valued in today's litigious business environment.

NVLAP®
NVLAP Lab Code 200661

Reliable
Over 15 years of Proven DryCal® Technology

Accurate
Backed by ISO 17025; NVLAP accredited

Portable
Lightweight and impact-resistant

Simple
Quick Start operation and no messy soap solutions

Bios

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