Product	**Streamline Pro™ MultiCal™ System**
Model	**Models LX, M, S, SX, H, HL; Control Unit Firmware Version 3.xx**
Description	• The Streamline Pro™ MultiCal™ System provides an integrated approach for assuring the quality of data generated by ambient air monitors and samplers. It is a battery-operated, handheld device with internal data storage that displays audit/calibration data directly on its display screen. The unit provides a direct readout of NIST-traceable flow rate, temperature and barometric (ambient) pressure data. A Remote (external) Temperature Probe (RT Probe) allows for NIST-traceable temperature measurements. • The Streamline Pro™ is the first portable integrated system that allows use of temperature measurements from the rugged RT Probe in the flow calculation for efficiency and convenience of operators. • The Streamline Pro™ is designed and calibrated for full interchangeability of all components. Each component's calibration constants and certification data are retained in the on-board memory of the component. The calibration data is automatically uploaded to the Control Unit (CU), where it is displayable and recordable for QA tracking. Any Measurement Unit (MU) can be used with any CU and any Remote Temperature (RT) Probe can also be used with any CU. This adds user flexibility because another MU calibrated over a different flow range can be added to the kit in the future as additional needs arise. • When the Streamline Pro™ is calibrated at laboratory conditions, the patented orifice element in the MU provides a calibration relationship based on the specific geometry it had at those laboratory conditions. Because of the durable, patented materials of which it is constructed, its geometry, performance and calibration do not change with changes in air temperature, humidity or pressure. Other flow rate measurement devices can expand, contract or distort when used at conditions other than those at which they were calibrated, providing unreliable flow rate measurements away from the lab. This situation is at its worst when the flow rate measurement device relies on polymeric, metallic, or combined materials, which have high and/or variable thermal expansion properties. • The Streamline Pro™ is a durable and accurate orifice-type Flow Transfer Standard with no moving parts or pistons to introduce shock waves or pulses in the air stream. It can be operated in any position because it doesn't utilize soap bubbles or other gravity or position-dependent components. There is no vacuum tubing to twist or tangle between the MU and CU. • The Streamline Pro™ is very portable and intuitively easy to use. The entire kit fits in the padded 14" x 11" x 4" carrying case and weighs only 4 pounds. The menus are easy to maneuver through and its features are designed for quick and easy access by users, even while wearing gloves! • The Model M, released in 2002, was the original Streamline Pro™. It was targeted for the TEOM in all configurations, with a flow range of 0.9 - 19 lpm. • The Model S was developed as a low pressure drop unit for the Beta Attenuation Monitor. This lower pressure drop was achieved by changing the orifice size. However, the larger orifice limited the lower end of the flow range and extended the upper end, so it was calibrated for 2 - 20 lpm. • The Model SX is Model S components calibrated over the 2 - 25 lpm flow range to include the 22 lpm target in the U.S. carbon sampling networks. • The Model H was originally designed to meet the European market needs with the flow range of 4.5 - 55 lpm. It also covers the target of 22 lpm in the U.S. carbon sampling networks. The Model H MU is frequently calibrated as a low pressure drop unit with the flow range of 5 – 30 lpm for use in conditions of extreme cold or with sampler models known to have limited capabilities to overcome high pressure drops. • The Model HL is a low pressure drop unit with the flow range of 3 – 25 lpm. The Model HL MU uses the same patented flow orifice element as the High-Flow Streamline™ FTS that is calibrated for the 5-20 lpm flow range. • The Model LX is designed for low-flow measurements over the 0.5 – 7 lpm flow range. The Model LX MU uses the same patented flow orifice element as the Low-Flow Streamline™ FTS that is calibrated for the 0.5-6 lpm flow range.

Features	• Simultaneous NIST-traceable measurements of flow rate, temperature and pressure with a continuous display of values. • User-selectable units of flow rate, temperature and pressure. • Interchangeability—CUs, MUs and RT Probes can be freely exchanged between kits while maintaining calibrations and NIST traceability. • User-selectable option to use the RT Probe measurement in the calculation of flow rates can extend the equipment Operating Range and decrease the time spent taking each measurement. • MU and RT Probe calibration data is automatically uploaded to the CU and is displayable and recordable for Quality Assurance tracking. • Internal logging of up to 45 data sets. • Battery powered or optional AC adapter use. • Fits directly on 1.25 inch sampler tubes or use the optional Universal Flow Adapter.	
Model	**Flow Range**	**Nominal Pressure Drop at Orifice**
Model LX	0.5 – 7 Liters / Minute	1” w.c. @ 1.7 lpm; 17” w.c. @ 7.0 lpm, 22°C, 1 atmosphere
Model M	0.9 – 19 Liters / Minute	30” w.c. @ 16.7 lpm, 22°C, 1 atmosphere
Model S	2 – 20 Liters / Minute	16” w.c. @ 16.7 lpm, 22°C, 1 atmosphere
Model SX	2 – 25 Liters / Minute	16” w.c. @ 16.7 lpm, 22°C, 1 atmosphere
Model H	4.5 – 55 Liters / Minute	3” w.c. @ 16.7 lpm, 22°C, 1 atmosphere
Model HL	3 – 25 Liters / Minute	6” w.c. @ 16.7 lpm, 11” w.c. @22 lpm, 22°C, 1 atmosphere
Custom-Built Models	Other flow ranges are available for unique applications	
Operating Range		
Temperature	-30 °C to +55 °C; it can be extended with the USE_RT feature available in firmware v 3.xx.	
Pressure	0.6 to 1.1 Atmospheres	
Flow Measurement Uncertainty		
At Room Temp. (22 °C)	±0.6 % Full Scale	
Over Operating Range	±1.2 % Full Scale	
Temp. Meas. Uncert.	±0.2 % Full Scale	
Press. Meas. Uncert.	±0.4 % Full Scale	
Components	• Control Unit (CU) • Measurement Unit (MU) • MU-CU Communication Cable • Remote Temperature Probe (RT Probe) • Solar Radiation Shield • Padded Carrying Case • Batteries (2 – AA 1.5V) • Certificate of Calibration • Operation Manual	
Optional Components	• Universal Flow Adapter w/ UniClamp and tubing • LogComm™ Software w/ CU-PC Communication Cable • 90 - 246 VAC Input - 5VDC Output Power Adapter	

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