



# Product Data Bulletin

## Soap Film Flowmeters

### Primary Standards for Calibrating Sample Pumps

- Primary standards
- Simple-to-use
- Sample contacts only glass and stainless steel
- Calibration lines encircle the tube for easy reading

#### **Principle of Operation**

A film flowmeter measures flow rate based on the unchanging properties of the measuring apparatus. The pump to be calibrated pulls air through a volumetric glass tube where a flat soap film bubble is interposed into the flow path. As the airflow causes the film to move up the volume marks, travel time is measured with a stopwatch. The flow rate can be calculated using the travel time and tube volume, or looked up on a flow chart.

#### **Model 303 Portable Flowmeter Kit**

Range: 5 to 500 ml/min

The SKC flowmeter kit contains all of the equipment, except a stopwatch, required for calibrating low flow personal sample pumps and detector tube pumps. The complete kit weighs only 3 pounds (1.4 kg) and includes a 100 ml buret flowmeter, film solution, operating instructions, flow charts, and a removable carry case. Calibration lines for 90, 95, 105, and 110 ml are also on the buret allowing for the calibration of detector tube pumps.



#### **About Built-in Flowmeters and Rotameters**

The ball-type flowmeters and rotameters built into most air samplers are primarily intended to serve as flow indicators and are, therefore, of low accuracy. These flowmeters as well as rotameters must be calibrated against a primary standard such as a film flowmeter or electronic calibrator (SKC UltraFlo®) to verify accuracy.

# Soap Film Flowmeters

## Laboratory Film Flowmeters

SKC Laboratory Film Flowmeters consist of a glass tube with red calibration lines at specified volumes, a squeeze bulb to contain sufficient soap film solution for flow measurement, an adapter to accommodate either vacuum or pressure sources, a stopper and connecting tubing, a tripod stand, film solution, and operating instructions. Flowmeters are available in various volumes to allow for quick and accurate flow determinations at specified flow rates.

## Digital Electronic Stopwatch

An accurate timer is required when using a film calibrator. The SKC stopwatch is a rugged, hand-held digital stopwatch with high-precision quartz crystal movement and solid-state circuitry powered by three AA alkaline batteries. The digital readout is to 1/100 second with a total elapsed time of 60 minutes.



## Ordering Information

Description	Measuring Range (ml/min)	Cat. No.
<b>Portable Field Flowmeter Kit</b> , includes a precision glass buret, film solution, operating instructions, and carry case.	5 - 500	<b>303</b>
<b>Laboratory Film Flowmeter Kit</b> , includes a precision glass buret, film solution, operating instructions, adapter for vacuum or pressure, and an aluminum tripod stand.	35 - 300	<b>311-100</b>
	200 - 1500	<b>311-500</b>
	300 - 3000	<b>311-1000</b>
	500 - 6000	<b>311-2000</b>
<b>Calibrating Accessories</b>		<b>Cat. No.</b>
<b>Film Solution</b> , 1 pint		<b>302-4011</b>
<b>Precision Digital Stopwatch</b> , powered by 3 AA batteries.		<b>303-01-1</b>

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