

Flow Meters

Curious about your actual flow rates?

*Determine your true rates
with a flow meter!*

A New Age of Flow Meters

CorSolutions offers a stand-alone flow meter that can be placed in-line at any desired point, to accurately determine flow rates. This is a truly essential item for microfluidic experiments. Simply put this independent flow meter in-line with existing fluid delivery devices for accurate low flow monitoring.

This flow meter can be calibrated to measure flow rates of a wide range of liquids. The meter can hold up to four different calibrations at a time, and in addition, previously saved calibrations can be quickly downloaded to the meter. Meters come with a water calibration and can also be factory calibrated for a variety of common liquids. Alternatively, users can calibrate the flow meter for the desired liquid.

Connections to the flow meters are made using a variety of connectors and adapters, allowing meters to be used with capillary, 1/32-inch, 1/16-inch, 1/8-inch and metric tubing. Additionally barbed fittings are available for use with soft tubing. The flow meter can be placed at any location on a fluidic workstation or as a stand-alone unit, and it comes in four models to accommodate various flow rates.



Flow Meter Advantages

- Flow meter can save 4 calibrations for different liquids
- Meter comes with water calibration
- Factory calibration for common fluids is offered
- Users can also calibrate the meter themselves

Models Offered

- Nano ± 20-7000 nL/min
- Micro ± 0.1-50 microL/min
- Milli ± 30-1000 microL/min
- Milli+Five ± 0.2-5.0 mL/min

The flow meters operate accurately in the flow rate ranges provided. It is possible for a flow meter to operate outside its range with decreased accuracy. Flow meters can operate in both positive and negative directions.

Specifications for Flow Meters

	Nano	Micro	Milli	Milli +5
Flow Rate Range	± 0 – 7000 nL/min	± 0 – 50 µL/min	± 0 – 1100 µL/min	± 0 - 5.0 mL/min
Standard Calibrated Flow Rate Range	± 20 - 7000 nL/min	± 0.1 – 50 µL/min	± 10 - 1000 µL/min	± 0.2 - 5.0 mL/min
Accuracy below full scale (% of full scale)	0.3%	0.15%	0.2%	0.2%
Repeatability below full scale (% of full scale)	0.05%	0.01%	0.02%	0.02%
Flow Detection Response Time	40 msec			
Operating Pressure	200 bar	100 bar	15 bar	15 bar
Operating Temperature	10 to 50°C			
Fluid Connector Type	UNF Taper 6-40		UNF ¼-28 Flat Bottom	
Flow Sensor Materials	Quartz Glass, PEEK™, Teflon®, Tefzel®		Borosilicate Glass, PEEK™, Teflon®, Tefzel®	
Flow Sensor Inner Diameter	150 µm	430 µm	1.0 mm	1.8 mm
Flow Sensor Internal Volume	1.5 µL	5.1 µL	< 30 µL	< 90 µL

How the Flow Meter Works

Integrated Components

- Flow sensor
- Data smoothing
- Display screen and control buttons
- On-board microprocessor

Communication

- Links to data logging PC software or LabVIEW via USB cable
- No computer is required when operated in stand alone mode
- Analog output and alarms
- Optional RS-232

Control

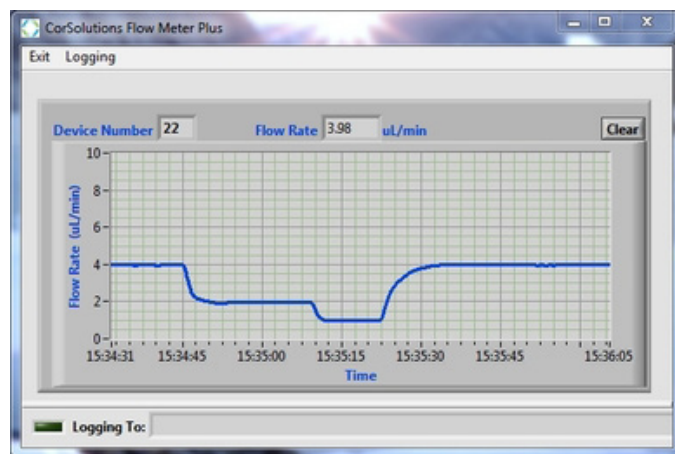
- Control from front display screen and buttons
- User-defined signal smoothing feature

Data Logging

- Digital output to data logging PC software or LabVIEW
- Ability to select the data logging rate

Benefits

- In-line, real-time flow rate measurement
- Real-time data logging via USB cable
- Fully adjustable data smoothing
- Compatible with a wide variety of tubing sizes ranging from 1/8-inch to 360 micron capillary
- Can save multiple calibrations for different liquids on-board
- Arrives calibrated for aqueous solutions
- Factory calibration for common fluids is available upon request
- User can calibrate meter



A screen capture of the flow meter software is shown.