

Flow Finder and Flow Gauge

For the first time—true accuracy in air flow measurement

It's a long-standing problem in pressurized cable system maintenance. For technicians chasing leaks, it's perplexing. And frustrating. The problem is: air flow measurements seldom add up; the parts simply don't equal the whole.

Typically the methods are suspect. But most often the fault is in the measurement equipment itself—the obvious example being the widely used portable flow rater.

Using this device means air flow is rerouted through pressure testing valves that significantly restrict air flow. The end result is an inaccurate flow measurement created by the measurement device itself.

That's precisely why System Studies developed its Flow Finder and Flow Gauge equipment.

Here's how it works

Flow Finders are installed—permanently—in the air pipe at the pipe alarm panels, on each of the Ts at air pipe junctions, at the manifold locations and at meter panels in the central office.

Air flow is determined by measuring the pressure differential over the Flow Finder's internal calibrated orifice. There's no rerouting of the air flow. Flow is stable and uninterrupted. As a result, truly accurate measurements are possible. The portable Flow Gauge is used to translate the Flow Finder's pressure readings into precise flow readings. And, because the four color-coded reading scales on the Flow Gauge correspond to the four Flow Finder ranges, determining the flow reading is easy.

Accuracy you can count on, readings that are fast and foolproof

There's virtually no chance of a Flow Finder falling out of calibration. Its orifices are made of stainless steel. And there simply aren't any moving parts to affect readings.

The Flow Gauge, which requires no batteries, is easily attached to the Flow Finder. A single Flow Gauge is capable of reading any flow range. By using the adjustment button on the Flow Gauge, even pegged flow readings are easily obtained.

System Studies Incorporated



2-1340 East Cliff Drive
Santa Cruz, CA 95062
(831) 475-5777
(800) 247-8255
(831) 475-9207 FAX
www.airtalk.com



System troubleshooting with ease—and confidence

Using the Flow Finder and Flow Gauge, you can quickly identify leaks, ghost manifolds and cheater hoses; analyze and locate leaks with greater efficiency, verify flow transducer readings; and tag air pipes. Best of all, you'll know your flow measurements will add up.

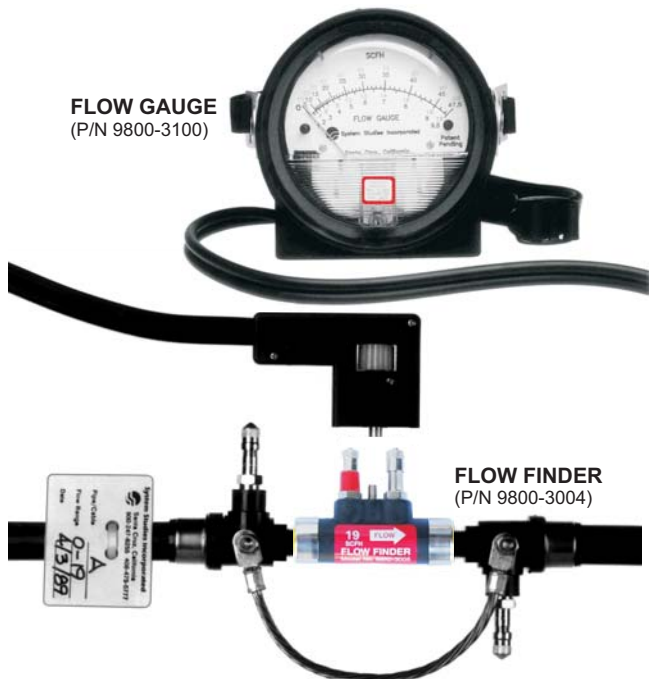
Flow Finder Specifications

Flow Finders are offered in four standard air flow ranges and are calibrated in Standard Cubic Feet per Hour (SCFH).

Part No.	Range	Color Code Reference
9800-3002*	0-9.5 SCFH	Green
9800-3004*	0-19 SCFH	Red
9800-3006	0-47.5 SCFH	Blue
9800-3008	0-95 SCFH	Purple

* Includes a check valve

Mechanical The housing is constructed of molded thermoplastic nylon, and the over-all length is 3.0 inches. Input and output ports are 1/4" NPT female threads. Flow Finders contain a precision stainless steel orifice, which results in a small pressure drop directly related to the amount of air flow. Mechanical parts are brass, nickel-plated. The Flow Finders are supplied with mounting brackets and pipe tags.



Performance The pressure drop across Flow Finders (all ranges) is 0.188 Pounds per Square Inch (PSI) at full air flow and 0.05 PSI at half flow. Accuracy of air flow reading is $\pm 1\%$ of full scale reading.

Installation Flow Finders are designed to be placed in air pipe systems in order to measure the air flow at various locations.

Two pipe fittings with bonding strap are required when installing a Flow Finder in an air pipe system. Flow Finders can be installed in 3/8" O.D. plastic tubing by using 1/4" NPT-M to 3/8" O.D. tubing adapters.

It is recommended that Flow Finders be installed at the following locations:

Location	Recommended Range
Pipe Alarm Panels	47.5 or 95 SCFH
Air Pipe (in line)	47.5 or 95 SCFH
Air Pipe Junctions	47.5 SCFH
Air Pipe Manifolds	9.5 or 19 SCFH
Cable fed from Manifold	9.5 SCFH
Pole Mounted Compressors	47.5 SCFH
Bypass Valves	9.5 SCFH

Flow Readings Flow Finders are provided with two tank valve fittings and a locking stud designed to mate with the Flow Gauge and Flow Monitoring Station*.

For high valve readings, the Model 3030 High Valve Assembly enables remote flow readings to be taken at distances up to 500 feet from the Flow Finder. A special twin hose provides the inter-connection.

*The Flow Monitoring Station is a device which allows the remote reading of a Flow Finder. Patent applied for.

Flow Gauge Specifications

Part Number: 9800-3100

General The Flow Gauge is designed to be used with the Flow Finders. It uses a quick connect sampler to sense the differential pressure appearing across the Flow Finders. The Flow Gauge converts the pressure differential across the Flow Finder's internal orifice into an air flow reading. This reading is measured in Standard Cubic Feet per Hour (SCFH). No batteries are required.

Reading the Flow Gauge The face of the Flow Gauge contains four separate scales, each color-coded to correspond with the colors appearing on the individual Flow Finders. In operation, it is unnecessary to switch scales.

Physical Description The Gauge, which is 4 inches in diameter, is housed in a protective rubber case. The case is supplied with an adjustable carrying strap. The two-port sampler fixture includes six feet of twin hose for connection to the Flow Finder being monitored.

The twin hose is specially molded from a fluid resistant thermoplastic rubber called Santoprene*. This material gives maximum protection from temperature extremes and from petroleum products commonly found in man-holes. The hose retains its flexibility under exposure to cold temperatures.

Reading Position For maximum accuracy, the Flow Gauge should be used in either a vertical or horizontal position. The rubber case is designed to facilitate the proper reading position. In taking precise measurements, it is recommended that the "zero adjustment" screw on the face of the Flow Gauge be used to set the zero reference prior to connecting the sampler.

Calibration The Flow Gauge is calibrated for maximum accuracy at a pipe pressure of 9.0 PSI. When used at substantially lower pressures, the Flow Gauge will produce less accurate readings.

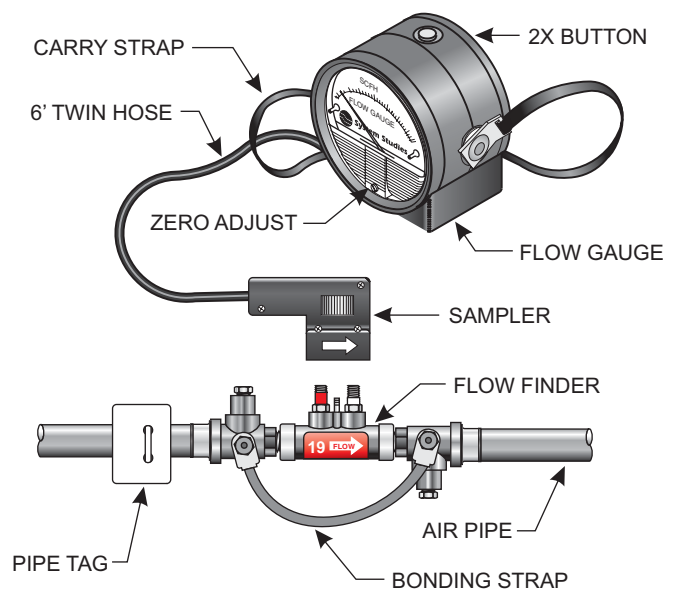
Times Two Button Located at the top of the Flow Gauge, the "times two" button allows for the reading of over-range or "pegged" flows. When pressed, the button reduces the flow reading in half, which allows for an accurate measurement of flow.

Reverse Flow Indication A reverse flow is detected when the alignment needle on the Flow Gauge scale moves to the left of the zero marker.

Net Weight 2.75 pounds

Shipping Weight 3.75 pounds

Patent applied for. Santoprene* is a registered trademark of Monsanto Company. Flow Finder™, Flow Gauge™ and Flow Monitoring Station™ are trademarks of System Studies Incorporated.



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