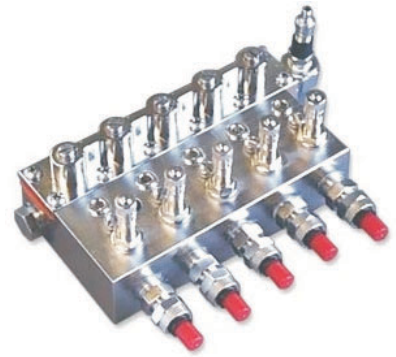


# Flow Finder Manifold



## At last—a leak locator’s manifold that helps solve the fundamental problem associated with tracking air flow

When a technician measures air flow at manifold locations using a portable flow rater, the sum of the readings seldom adds up to the total flow indicated in the central office. Why? Because the air is rerouted and restricted. It has to pass through pressure testing valves and air chucks in order to be read with the flow rater. The result: inaccurate readings.

Then there’s the issue of having to turn the manifold off and on. Before you can even take a reading with the portable flow rater, you have to close the shutoff valve on the manifold to the cable being fed. Simple enough. The problem is—you also have to remember to turn the shutoff valve back on, and not everybody does. So you begin to second-guess yourself.

### The solution

Imagine the convenience of using an air pipe manifold that has built-in Flow Finders™. A manifold that enables you to take accurate flow readings without having to reroute air and disturb air flow to the field. A manifold that eliminates the risk of forgetting to re-open the valve after you have taken your reading. A manifold that enables you to respond to pegged flow readings with a push of a button. The System Studies Flow Finder Manifold™ (Part No. 9800-3060 and 9800-3070) makes all of this possible. It is the first air pipe manifold designed as a serious leak locating tool.

### Here’s how it works

Like a typical air pipe manifold, air enters the main chamber of the Flow Finder Manifold and is routed through the individual chambers that feed the cables. But that’s where the similarity ends. Each chamber in the Flow Finder Manifold has a Flow Finder installed to measure the outgoing flow to the individual cable. Another Flow Finder—of a higher flow range—measures the incoming flow rate from the air pipe.

Each of the manifold’s Flow Finders is equipped with an internal calibrated orifice which creates a slight pressure differential. This pressure value is converted to a flow rate when read by the Flow Gauge™. If the reading is off scale (pegged), you can simply depress the

“times two” button on the Flow Gauge, read the adjusted value, and multiply by two. You’ll get an accurate flow rate every time.

As the next step in the evolution of Flow Finder technology, the Flow Finder Manifold offers you unparalleled ease and accuracy in air flow measurement. Because there’s no rerouting of the air flow, there’s no waiting for the system to stabilize. You simply connect the Flow Gauge sampler, identify the appropriate color-coded scale, and read the flow rate. It takes only seconds.

### Troubleshooting—fast and easy

Because flow measurements have become a crucial part of leak locating, you need tools that can be relied on for accuracy and dependability. With Flow Finders installed in-line between the delivery air flow and each cable, you can accurately track how much air is flowing to each cable. And by taking a measurement at the input Flow Finder, you can verify the flow transducer monitoring the manifold.

The Flow Finder Manifold can also be used in conjunction with a high valve assembly, which can be permanently installed at a convenient location in the utility hole. This high valve installation enables remote flow readings to be taken from the Flow Finder Manifold, eliminating the need to climb into a utility hole.

### Model specifications

The Flow Finder Manifold (Part No. 9800-3060) is designed for installation at any traditional air pipe manifold location. The manifold has six Flow Finders—one to measure incoming flow and the remaining five for outgoing cable flows.

A five port manifold (Part No. 9800-3070) can be connected to the six port model when more than five cables are fed by an air pipe. This is done by extending a pipe nipple) between the two manifolds.

The six port and five port Flow Finder Manifolds can be ordered in several different configurations as indicated in the ordering chart. By offering a variety of Flow Finder ranges and hardware fittings for each port, you can select a manifold that will best suit your field conditions.



**Mechanical** The manifold housing is constructed of nickel-plated brass metal. Assembly parts and materials are either stainless steel or nickel-plated brass. The six port manifold is 3 inches (7.6 cm) high, 2 inches (6.4 cm) deep (including valves), and 6 inches (16.5 cm) wide. The five port manifold differs only in width. It measures 5 inches (13.3 cm) across. Mounting holes are centered and placed 3 inches (6.4 cm) apart. Input and output ports are available with a variety of fittings to meet system needs. All gaskets are made of silicone rubber.

Each internal Flow Finder contains a precision stainless steel orifice and is equipped with two tank valve fittings and a locking stud to accommodate a Flow Gauge or System Studies High Resolution Flow Transducer™.

**Performance** The pressure drop across the Flow Finder internal orifice is 0.188 Pounds per Square Inch (PSI), or 0.027 kilopascals (kPa), at full air flow and 0.05 PSI (0.007 kPa) at half flow. These values pertain to all Flow Finder ranges.



Accuracy of an air flow reading is  $\pm 1$  percent of the full scale reading.

**Operating Range** The System Studies Flow Finder Manifold has been thoroughly tested and confirmed for reliable operation within the following parameters:

- Operating Temperature Range:  $-40^{\circ}\text{F}$  to  $+220^{\circ}\text{F}$
- Maximum Pressure: will withstand 20 PSI (3 kPa) over the above operating temperature range.

**Shipping Weight** 6 pounds (2.7 kg)

For additional information on System Studies' transducers, refer to our transducer data sheets. Detailed Flow Finder and Flow Gauge information is supplied on the Flow Finder/Flow Gauge Data Sheet.

The words Flow Finder, Flow Finder Manifold, High Resolution Flow Transducer and Flow Gauge are trademarks of System Studies Incorporated.

Specifications subject to change without notification.

### FLOW FINDER MANIFOLD ORDERING CHART

PART NUMBER	RANGE*	FITTING**
9800-3060 SIX PORT	L, M, H, C	BS, BV, SS, SV
9800-3070 FIVE PORT (Used with 3060 to feed 10 Cable)	L, H, C, M (Designates output range only)	BS, BV, SS, SV

Please note that a part number, range and fitting must be specified for each Flow Finder Manifold when ordering.

**\*Flow Finder Ranges:**

- L** Low: Input = 19.0 SCFH, Output = 9.5 SCFH
- M** Medium: Input = 47.5 SCFH, Output = 9.5 SCFH
- H** High: Input = 95.0 SCFH, Output = 19.0 SCFH
- C** Custom: Multiple output ranges to meet customer specifications (contact System Studies Incorporated)

**\*\*Fittings:**

- BS** Supplied with nickel-plated brass, standard tubing connectors. Use with 3/8" plastic tubing.
- BV** Supplied with nickel-plated brass, standard tubing connectors, along with stainless steel check valves on all outputs. Use with 3/8" plastic tubing.
- SS** Supplied with stainless steel, 37° flared tubing connectors. Use with 1/4" stainless steel tubing.
- SV** Supplied with stainless steel, 37° flared tubing connectors, along with stainless steel check valves on all outputs. Use with 1/4" stainless steel tubing.

**Ordering Examples:**

If you ordered Part No. 9800-3060MBS, you would receive a six port Flow Finder Manifold with a medium flow range (input of 47.5 SCFH and output of 9.5 SCFH) and nickel-plated brass, standard tubing connectors.

If you ordered Part No. 9800-3060HSV, you would receive a six port Flow Finder Manifold with a high flow range (input of 95.0 SCFH and output of 19.0 SCFH), stainless steel, 37° flared tubing connectors and stainless steel check valves on all outputs.

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