

High Resolution Flow Transducer

Revolutionizing flow monitoring in cable pressurization systems

Dispatching, leak locating, route indexing—in order to do your job well, you depend on accurate flow measurements. Flow measurements taken manually at air source locations and remotely via your air pressure monitoring system.

That's why we developed Flow Finders™. To provide true flow measurement accuracy and dependability. To give you tools for precision flow measurement. Tools that not only eliminate questions about flow rates—but also help direct leak locating efforts, reveal unrecorded air sources, and verify transducer accuracy.

System Studies' High Resolution Flow Transducer™ takes this flow measurement technology another step forward. Building on the Flow Finder as a foundation, our product goes beyond the limitations of conventional flow transducers to break new ground in flow monitoring accuracy and reliability. And because it reads in the range of the Flow Finder where it's installed, it can be used to monitor the one inch air pipe systems that are now being built.

Utilizing loop current

Many conventional flow transducers are still using a stepped electrical resistance scale to indicate changes in flow rates. Trouble is, the transducer's resistance scales are provided in either 20 or 40 steps. So, depending on how the transducer is calibrated—either 0-9.5 Standard Cubic Feet per Hour (SCFH), 0-19 SCFH, 0-47.5 SCFH or 0-100 SCFH—each position on the scale represents a segment of the flow range. Subtle differences in flow rates simply cannot be detected.

The System Studies High Resolution Flow Transducer outputs in loop current, rather than electrical resistance. As such, it is stepless—providing extended reading capabilities and accuracy down to approximately 1% of calibrated operating span. And it's the first transducer designed specifically to interface with both PressureMAP™ and the 289H Loop Surveillance System (LSS)™.

Here's how it works

The High Resolution Flow Transducer is designed to be used with a Flow Finder. It reads the pressure differential created by the Flow Finder and converts this reading into an electrical current output (in the range of 4 to 20 milliamperes). This electrical output is read remotely by the 289H LSS.

Because of the wide reading capabilities of the High Resolution Flow Transducer, it provides guaranteed flow accuracy for each of the Flow Finder ranges: 9.5 SCFH, 19.0 SCFH, 47.5 SCFH, 95.0 SCFH and 475.0 SCFH. It also provides an extended reading range for each of these Flow Finders which is equal to twice the designated flow range. For example, if a 19.0 SCFH Flow Finder is pegged, the transducer will continue providing accurate readings up to 38.0 SCFH.

Installation Applications

The System Studies High Resolution Flow Transducers can be installed at any location where flow rates are measured with a Flow Finder. Typically, they will be installed in the central office at pipe alarm and distribution panels, at conventional air pipe manifold locations in the field (where Flow Finders are in place), or at Flow Finder Manifolds™.

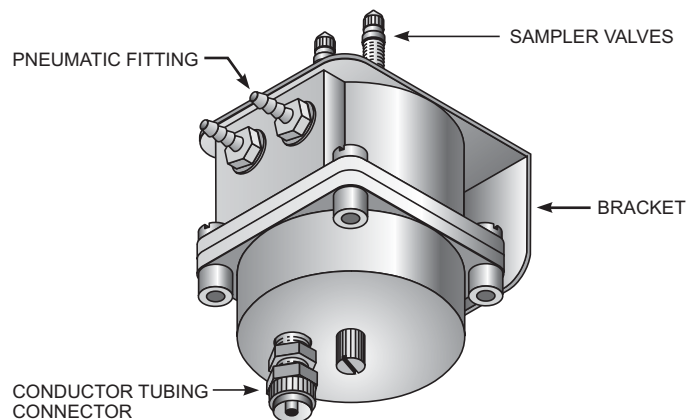
Using its specially designed bracket, the transducer may be mounted directly to a manhole wall, central office panel or telephone pole. One variation of the transducer allows for simple installation on a standard 5- or 10-bank transducer housing.

In each of these applications, the pneumatic fittings on the side of the transducer are tubed directly to the Flow Finder being read. From the built-in sampler valves located on top of the transducer, a technician can manually verify the flow rate indicated by the transducer with a Flow Gauge™.

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



Pair Access

The High Resolution Flow Transducer is equipped with an internal splicing cavity which permits quick access to device pairs. This feature makes it possible to easily disconnect the transducer from its monitoring circuit when troubleshooting the pair. With conventional transducers, it is necessary either to open the splice case itself to access the device pair or purchase an additional splicing terminal for this purpose. The internal splicing cavity eliminates the need for additional hardware and makes access to conductor pairs as easy as unscrewing a thumb screw and removing a protective cover.

Model Specifications

The System Studies High Resolution Flow Transducer is supplied in five configurations. See the accompanying ordering chart for more information.

Mechanical The transducer housing is constructed of nickel-plated brass with a mineral filled nylon barrier plate. Dimensions vary depending upon which configuration is ordered. For example, one of the common stand-alone models (Part No. 4100) measures approximately 2¾ inches (7 cm) high, by 2½ inches (6.4 cm) in length and width. Input and output ports on this model are 3/8-inch standard tubing fittings.

The mounting bracket, sold with stand-alone versions of the transducer, is stainless steel. Side holes, used

to mount the bracket to a post, wall or panel, are ¼ inch (.6 cm) in diameter and are placed 1¾ inches (4.4 cm) apart. Four 7/32-inch (.5 cm) holes, used to secure the transducer to a transducer housing, are located on top of the bracket.

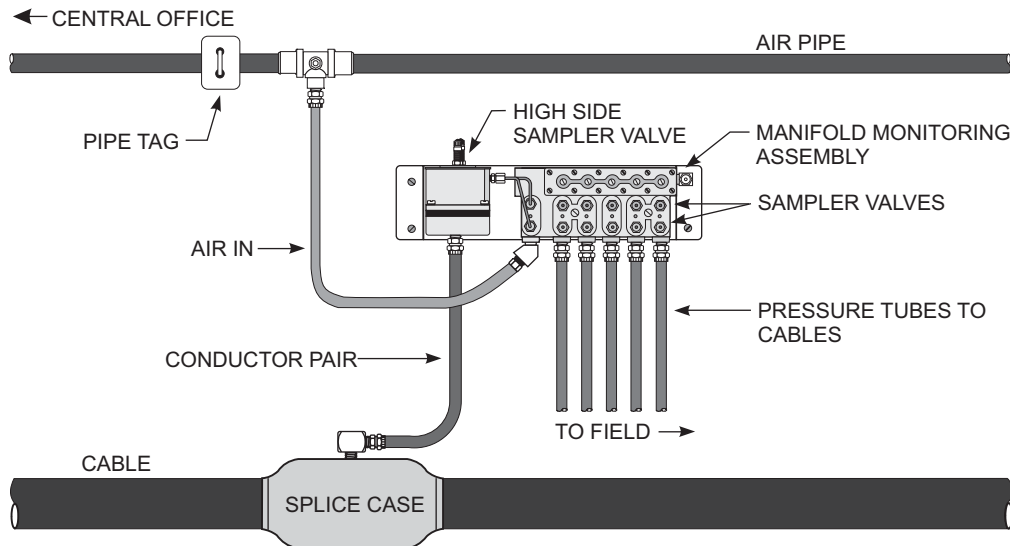
Performance Margin of error for repeatability in the High Resolution Flow Transducer is less than 1%. It is infinitely readable from zero flow to full flow in all five Flow Finder ranges. If the Flow Finder being measured is pegged, the High Resolution Flow Transducer will provide stepless and accurate readings up to two times the maximum reading capability of the Flow Finder. Overall measurement stability at all flow ranges is unparalleled.

Flow Readings Transducer readings can be manually verified with a Flow Gauge using the two tank valve fittings (sampler valves) located on top of the transducer. The two pneumatic fittings on the side of the transducer can be tubed directly to an installed Flow Finder or to a Flow Finder Manifold's incoming Flow Finder sampler valves.

For information on System Studies' High Resolution Pressure Transducer, High Resolution Dual Transducer, Flow Finder, Flow Gauge, Flow Finder Manifolds and Manifold Monitoring Assemblies, please refer to their respective data sheets.

Flow Finder, High Resolution Flow Transducer, PressureMAP, 289H Loop Surveillance System (LSS), Flow Finder Manifold, and Flow Gauge are trademarks of System Studies Incorporated.

Specifications subject to change without notification.



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

HIGH RESOLUTION FLOW TRANSDUCERS

PART NUMBER	PNEUMATIC FITTING*
9800-4100 STAND-ALONE (this model includes a nickel-plated brass conductor tubing connector, 15 feet of plastic tubing, and 18 feet of 2-pair conductor wire)	BB, BR, SC
9800-4101 CENTRAL OFFICE PANEL MOUNT (this model includes a wire cover assembly with 2 conductor pairs in a protective sheath).	BB, BR
9800-4102 TRANSDUCER HOUSING MOUNT (this model does not include a wire cover assembly, center barrier plate, or tubing and conductors)	BB
9800-4103 STAND-ALONE (this model is supplied with a 37° flared stainless steel conductor tubing connector; it does not include tubing or conductors)	BB, BS, SC
9800-4104 STAND-ALONE (this model is supplied with 1/4" nickel-plated brass conductor tubing connector; it does not include tubing or conductors)	BB, BR, SC

Please note that a four digit part number and a two digit pneumatic fitting designation must be specified for each transducer when ordering.

***Pneumatic Fittings:**

- BB** Transducer supplied with nickel-plated brass, barbed pneumatic connectors.
- BR** Transducer supplied with nickel-plated brass, barbed pneumatic connectors on a 90° elbow.
- SC** Transducer supplied with nickel-plated brass connectors. For use with 1/8" pre-formed stainless steel tubing.

Ordering Examples:

If you ordered part number 9800-4101-BR (shown in the illustration below), you would receive a High Resolution Flow Transducer designed for mounting on a central office panel. The transducer would be supplied with nickel-plated brass, barbed pneumatic connectors on 90° elbows.

Model number 9800-4100-SC is a stand-alone flow transducer with pneumatic connector fittings that accommodate 1/8" pre-formed stainless steel tubing. This model is used for the field Flow Finder and Flow Finder Manifold bracket assemblies.

