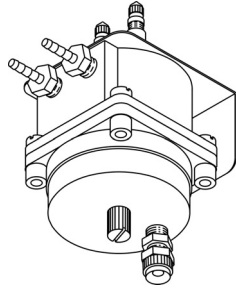


## Flow Transducers

System Studies' High Resolution Flow Transducers™ utilize the Flow Finder System of Measurement™ to bring unparalleled versatility and accuracy to remote air flow measurement. When pneumatically connected to a Flow Finder™ (either an individual unit or one installed in a Flow Finder Manifold™ or Flow Bank™), the High Resolution Flow Transducer provides readings from zero flow to full flow in the designated Flow Finder range. It also provides accurate readings up to two times the indicated flow range maximum.



Unlike mechanical flow transducers that provide electrical resistance output in 20 or 40 steps, our High Resolution Flow Transducers use solid-state circuitry to provide stepless current loop output in the range of 4 to 20 milliamperes. PressureMAP™, via the 289H LSS™ monitor, converts the transducer's electrical current output into precise flow readings (down to 0.1 SCFH/2.8 LPH resolution for each Flow Finder range). For this reason, the subtle flow changes undetected by other transducers can be accurately measured by the High Resolution Flow Transducer.

Our Flow Transducers are available in a variety of configurations to suit your specific needs. Variations pertain to the type of fittings supplied for both the pneumatic and conductor tubing (if applicable), and the transducer's intended application/installation. The configurations shown in this catalog section are the most commonly ordered ones.

## SPECIFICATIONS

- Calibration** Provides stepless readings from 0 to full flow for each Flow Finder range.
- Performance** Pneumatically connects to external Flow Finder and reads pressure differential created by air flowing across Flow Finder's internal, calibrated orifice. Pressure differential is converted to a flow reading in Standard Cubic Feet per Hour (SCFH) or Liters per Hour (LPH) for each of the five available Flow Finder ranges: 0-9.5 SCFH (270 LPH), 0-19 SCFH (540 LPH), 0-47.5 SCFH (1350 LPH), 0-95 SCFH (2700 LPH) and 0-475 SCFH (13,500 LPH). Provides accurate readings up to two times the indicated Flow Finder reading range. Margin of error for repeatability is less than 1%.
- Electrical** Powered by voltage (in the range of 12 to 48 VDC) supplied over dedicated conductor pairs by the 289H LSS Monitor.
- Pair Access** Via internal splicing cavity. Most models supplied with primary and secondary conductor pairs.

### Mechanical

Transducer housing is constructed of nickel-plated brass. Barrier plate is ABS plastic. Stand-alone models supplied with stainless steel mount bracket.

### Measurement

Equipped with two sampler valves for manual flow readings with Flow Gauge™.

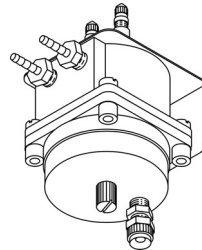
### Dimensions

Stand-alone and panel mount models measure 2 1/4 inches (5.7 cm) high by 2 1/2 inches (6.4 cm) wide.

### Weight

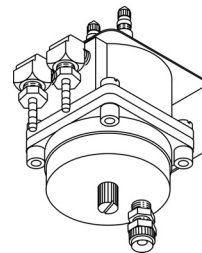
2 lbs.

### 9800-4100-BB Sensor, Flow Transducer, Stand-alone, Barbed Fittings



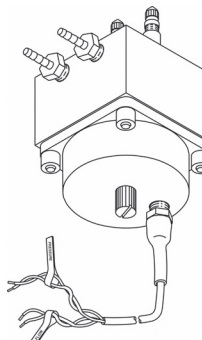
Stand-alone flow transducer with barbed, nickel-plated brass fittings (side location) for connecting pneumatic tubing. Wire cover assembly supplied with nickel-plated brass fitting (bottom location) for 3/8" conductor tubing. Transducer includes 15 feet of plastic tubing and 18 feet of 2-pair conductor wire (not shown).

### 9800-4100-BR Sensor, Flow Transducer, Stand-alone, 90° Barbed Fittings



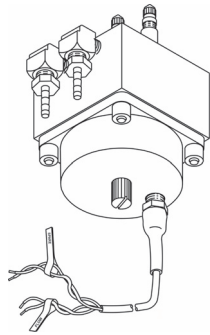
Stand-alone flow transducer with 90°, barbed nickel-plated brass fittings (side location) for connecting pneumatic tubing. Wire cover assembly supplied with nickel-plated brass fitting (bottom location) for 3/8" conductor tubing. Transducer includes 15 feet of plastic tubing and 18 feet of 2-pair conductor wire (not shown).

### 9800-4101-BB Sensor, Flow Transducer, Panel Mount, Barbed Fitting



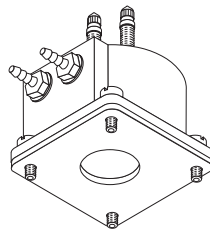
Panel mount flow transducer with barbed nickel-plated brass fittings (side location) for connecting pneumatic tubing. Wire cover assembly supplied with 18 feet of 2-pair conductor wire in a protective sheath.

**9800-4101-BR Sensor, Flow Transducer, Panel Mount, 90° Barbed Fitting**



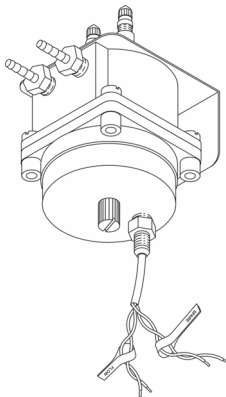
Panel mount flow transducer with 90°, barbed nickel-plated brass fitting (side location) to accommodate pneumatic tubing. Wire cover assembly supplied with 18 feet of 2-pair conductor wire in a protective sheath.

**9800-4102-BB Sensor, Flow Transducer, Housing Mount, Barbed Fitting**



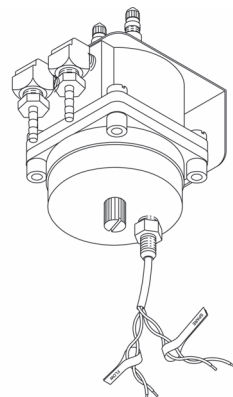
Housing mount flow transducer with barbed nickel-plated brass fitting (side location) to accommodate pneumatic tubing. No wire cover assembly or barrier plate supplied with this configuration. Intended for installation in five or ten bank, pressurized transducer housing. This model equipped with one pair of 26 gauge, stranded wire (not shown).

**9800-4103-BB Sensor, Flow Transducer, Stand-alone, Barbed Fitting**



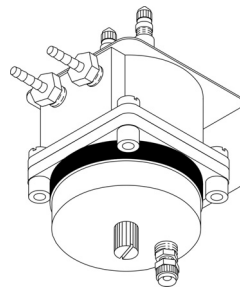
Stand-alone flow transducer equipped with barbed nickel-plated brass fittings (side location) for connecting pneumatic tubing. Wire cover assembly includes a 37°, flared, stainless steel fitting (bottom location) to accommodate braided, stainless steel conductor tubing. Transducer is supplied with 18 feet of 2-pair conductor wire.

**9800-4103-BR Sensor, Flow Transducer, Stand-alone, 90° Barbed Fitting**



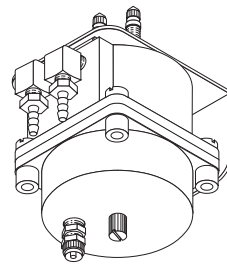
Stand-alone flow transducer equipped with 90°, barbed nickel-plated brass fittings (side location) for connecting pneumatic tubing. Wire cover assembly includes a 37°, flared, stainless steel fitting (bottom location) to accommodate braided, stainless steel conductor tubing. Transducer is supplied with 18 feet of 2-pair conductor wire.

**9800-4104-BB Sensor, Flow Transducer, Stand-alone, Barbed Fitting**



Stand-alone flow transducer equipped with barbed nickel-plated brass fittings (side location) for connecting pneumatic tubing. Wire cover assembly includes a nickel-plated brass fitting (bottom location) to accommodate 1/4" conductor wire tubing. This model is not supplied with tubing or conductor wire.

**9800-4104-BR Sensor, Flow Transducer, Stand-alone, 90° Barbed Fitting**

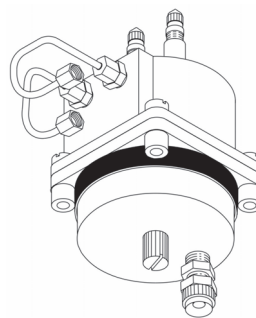


Stand-alone flow transducer equipped with 90°, barbed nickel-plated brass fittings (side location) for connecting pneumatic tubing. Wire cover assembly includes a nickel-plated brass fitting (bottom location) to accommodate 1/4" conductor wire tubing. This model is not supplied with tubing or conductor wire.

**ASSEMBLY REPLACEMENT TRANSDUCERS**

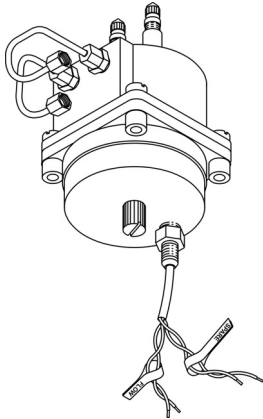
Please note that there are several variations of the High Resolution Flow Transducer that can be ordered as a replacement for the one supplied on a Manifold Monitoring Assembly or Flow Measurement Assembly. These models are listed below.

**9800-4100-SC Sensor, Flow Transducer, Assembly Replacement, 3/8" Wire Cover Tubing Fitting**



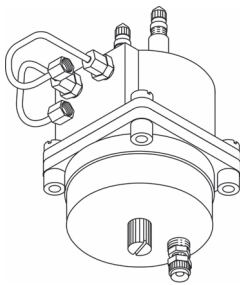
Replacement flow transducer for use on Manifold and Flow Measurement Assemblies. Equipped with nickel-plated brass connectors (side location) for 1/8" pre-formed stainless steel pneumatic tubing. Wire cover assembly supplied with nickel-plated brass fitting (bottom location) for 3/8" conductor tubing. Transducer includes 15 feet of plastic tubing and 18 feet of 2-pair conductor wire (not shown).

**9800-4103-SC** **Sensor, Flow Transducer, Assembly Replacement, 37° Flared Wire Cover Tubing Fitting**



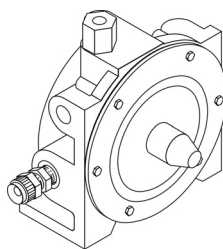
Replacement flow transducer for use on Manifold and Flow Measurement Assemblies. Equipped with nickel-plated brass connector fittings (side location) for 1/8", pre-formed stainless steel pneumatic tubing. Wire cover assembly includes a 37°, flared, stainless steel fitting (bottom location) to accommodate braided, stainless steel conductor tubing. Transducer is supplied with 18 feet of 2-pair conductor wire.

**9800-4104-SC** **Sensor, Flow Transducer, Assembly Replacement, 1/4" Wire Cover Tubing Fitting**



Replacement flow transducer (for use on Manifold and Flow Measurement Assemblies) equipped with nickel-plated brass fittings (side location) for connecting 1/8" preformed stainless steel pneumatic tubing. Wire cover assembly includes a nickel plated brass fitting (bottom location) to accommodate a 1/4" conductor wire tube. This model is not supplied with tubing or conductor wire.

**RESISTIVE FLOW TRANSDUCERS**



System Studies also supplies four stand-alone resistive flow transducers for use in air pressure systems that are not monitored by a 289H Loop Surveillance System. Each of the models described below provides flow readings in 40 step increments, from zero flow to its maximum rated value in Standard Cubic Feet per Hour (SCFH). In addition, they are all supplied

with 22 gauge conductor wire (single pair) in fifteen feet (4.6 m) of protective plastic tubing.

**9800-4010-W** **Sensor, Flow Transducer, Resistive, 0-9.5 SCFH**

This 0-9.5 SCFH resistive flow transducer (as well as the other three listed below) is designed primarily for underground installations. It has a reading resolution of approximately .25 SCFH.

**9800-4010-X** **Sensor, Flow Transducer, Resistive, 0-19 SCFH**

The 0-19 SCFH resistive flow transducer provides flow readings in approximately .5 SCFH from zero to full flow.

**9800-4010-Y** **Sensor, Flow Transducer, Resistive, 0-47.5 SCFH**

Reading resolution for the 0-47.5 SCFH resistive flow transducer is approximately 1.2 SCFH.

**9800-4010-Z** **Sensor, Flow Transducer, Resistive, 0-95 SCFH**

This 0-95 SCFH resistive flow transducer is designed for high flowing central office pipe alarm panels. Its 40 step output provides readings down to approximately 2.4 SCFH.

**SPECIFICATIONS: RESISTIVE FLOW TRANSDUCER**

<b>Available Ranges</b>	0-9.5 SCFH (269 LPH) , 0-19 SCFH (538 LPH), 0-47.5 SCFH (1345 LPH), and 0-95 SCFH (2690 LPH)
<b>Working Pressure</b>	0 to 10 PSI (0 to 69 kPa)
<b>Max. Overpressure</b>	35 PSI (241 kPa)
<b>Factory Calibrated Pressure</b>	10 PSI (69 kPa)
<b>Max. Pressure Drop</b>	0.3 PSI (2.07 kPa) at maximum flow output and 10 PSI (69 kPa) input
<b>Ambient Temp. Range</b>	-50° F (-46° C) to + 130° F (54° C)
<b>Flow Connections</b>	3/8 inch (1cm) plastic tubing connections
<b>Electrical Connection</b>	15 feet (4.6 m) #22 gauge single pair wire in protective plastic tubing
<b>Enclosure</b>	Tinned bronze
<b>Weight</b>	Approximately 4 lbs. (1.8 kg)

The words High Resolution Dual Transducer™, Flow Finder™, Flow Finder System of Measurement™, Flow Gauge™, 289H LSS™, and PressureMAP™ are trademarks of System Studies Incorporated.

**HIGH RESOLUTION FLOW TRANSDUCERS**

PART NUMBER	PNEUMATIC FITTINGS*
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
4101 CENTRAL OFFICE PANEL MOUNT (this model includes a wire cover assembly with 2 conductor pairs in a protective sheath).	BB, BR
4102 TRANSDUCER HOUSING MOUNT (this model does not include a wire cover assembly, center barrier plate, or tubing and conductors)	BB
4103 STAND-ALONE (this model is supplied with a 37° flared stainless steel conductor tubing connector; it does not include tubing or conductors)	BB, BR, SC
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 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 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.

