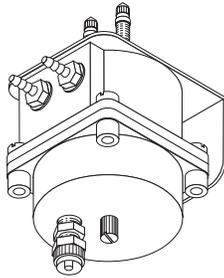


## Dual (Pressure/Flow) Transducers

System Studies' High Resolution Dual Transducer™ combines the precise monitoring capabilities of our pressure transducer with the versatility and accuracy of our flow transducer. It is designed to be used with the Flow Finder System of Measurement™, the 289H LSS™ monitor, and the PressureMAP™ monitoring software. This transducer is ideal for monitoring central office and end of pipe manifold locations.



The transducer pneumatically connects to an external Flow Finder™ to provide the differential pressure measurement used for both the flow and pressure readings. The transducer housing contains two circuit boards: one that measures the difference between Flow Finder's high and low pressure sides; the other that measures pressure entering the housing from the Flow Finder's low side. These pressure values create small voltage outputs which are converted to electrical current values (between 4 and 20 mA) and transported via two dedicated conductor pairs to the 289H LSS monitor. Data is converted into accurate pressure and flow information by the PressureMAP software. Pressure readings are provided in range of 0-30 PSI (207 kPa); flow readings depend on the range of the Flow Finder being measured: 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). Flow readings can be extended to two times the indicated flow range.

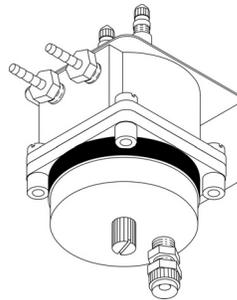
The High Resolution Dual Transducer is available in a variety of configurations to suit your specific needs. Model types differ according to the type of fittings supplied with the transducer and the transducer's intended application/installation. The configurations shown in this catalog section are the most commonly ordered ones.

### TRANSDUCER SPECIFICATIONS

- Calibration** Flow sensor provides stepless readings from 0 to full flow for all Flow Finder ranges, with the capability of providing accurate flow readings up to two times the indicated Flow Finder range. Pressure sensor reads absolute pressure from 0-30 PSI (0-207 kPa) in 0.1 PSI (0.69 kPa) increments.
- Performance** 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. Separate pairs for flow and pressure sensors.

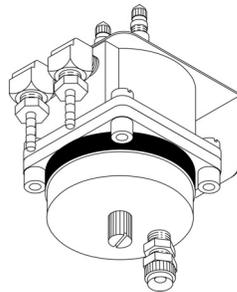
- Pair Access** Via internal splicing cavity. Most models supplied with primary and secondary conductor pairs.
- Mechanical** Housing is constructed of nickel-plated brass. Barrier plate is ABS plastic. Stainless steel mounting bracket included with stand-alone models.
- Measurement** Equipped with two sampler valves for manual flow readings using Flow Gauge™ and C Pressure Gauge.
- Dimensions** Stand-alone and panel mount models measure 2.25 inches (5.7 cm) high by 2.5 inches (6.4 cm) wide.

#### 9800-4200-BB Sensor, Dual Transducer, Stand-alone, Barbed Fittings



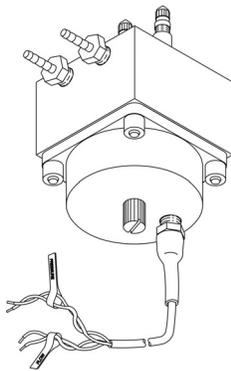
Stand-alone dual (pressure/flow) transducer with barbed, nickel-plated brass fittings (side location) for connecting pneumatic tubing. Wire cover assembly supplied with nickel-plated brass fitting (bottom location) for 3/8" conductor tubing. Transducer includes 15 feet of plastic tubing and 18 feet of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

#### 9800-4200-BR Sensor, Dual Transducer, Stand-alone, 90° Barbed Fittings



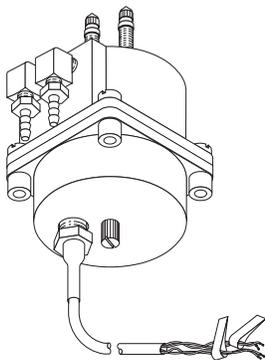
Stand-alone dual (pressure/flow) transducer with 90°, barbed nickel-plated brass fittings (side location) for connecting pneumatic tubing. Wire cover assembly supplied with nickel-plated brass fitting (bottom location) for 3/8" conductor tubing. Transducer includes 15 feet of plastic tubing and 18 feet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

**9800-4201-BB** Sensor, Dual Transducer, Panel Mount, Barbed Fitting



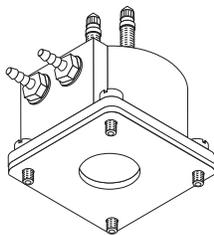
Panel mount dual (pressure/flow) transducer with barbed nickel-plated brass fittings (side location) for connecting pneumatic tubing. Wire cover assembly supplied with 18 feet of 2-pair conductor wire in a protective sheath.

**9800-4201-BR** Sensor, Dual Transducer, Panel Mount, 90° Barbed Fitting



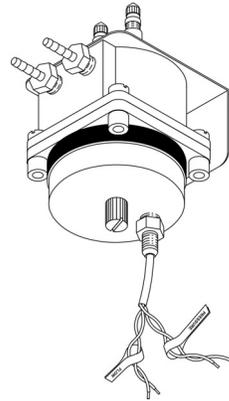
Panel mount dual (pressure/flow) transducer with 90° barbed nickel-plated brass fitting (side location) to accommodate pneumatic tubing. Wire cover assembly supplied with 18 feet of 2-pair conductor wire in a protective sheath.

**9800-4202-BB** Sensor, Dual Transducer, Housing Mount, Barbed Fitting



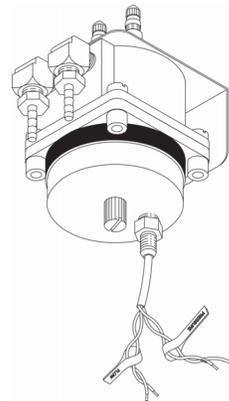
Housing mount dual (pressure/flow) transducer with barbed nickel-plated brass fitting (side location) to accommodate pneumatic tubing. No wire cover assembly or barrier plate supplied with this configuration. Intended for installation in five or ten bank, pressurized transducer housing. This model equipped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

**9800-4203-BB** Sensor, Dual Transducer, Stand-alone, Barbed Fitting



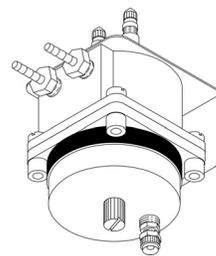
Stand-alone dual (pressure/flow) transducer equipped with barbed nickel-plated brass fittings (side location) for connecting pneumatic tubing. Wire cover assembly includes a 37°, flared, stainless steel fitting (bottom location) to accommodate braided, stainless steel conductor tubing. Transducer is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

**9800-4203-BR** Sensor, Dual Transducer, Stand-alone, 90° Barbed Fitting



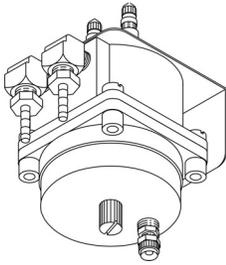
Stand-alone dual (pressure/flow) transducer equipped with 90°, barbed nickel-plated brass fittings (side location) for connecting pneumatic tubing. Wire cover assembly includes a 37°, flared, stainless steel fitting (bottom location) to accommodate braided, stainless steel conductor tubing. Transducer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

**9800-4204-BB** Sensor, Dual Transducer, Stand-alone, Barbed Fitting



Stand-alone dual (pressure/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.

**9800-4204-BR**     **Sensor, Dual Transducer, Stand-alone, 90° Barbed Fitting**

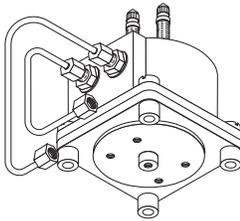


Stand-alone dual (pressure/flow) transducer equipped with 90°, barbed nickel-plated brass fittings (side location) for connecting pneumatic tubing. Wire cover assembly includes a nickel-plated brass fitting (bottom location) to accommodate 1/4" conductor wire tubing. This model is not supplied with tubing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

**ASSEMBLY REPLACEMENT TRANSDUCERS**

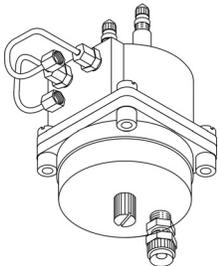
Like our other transducers, there are several variations of the High Resolution Dual Transducer that can be ordered as a replacement for the one supplied on a Manifold Monitoring Assembly or Flow Measurement Assembly. These models are listed below.

**9800-420N-SC**     **Sensor, Dual Transducer, Assembly Replacement, No Wire Cover**



Replacement dual transducer for use on manifold and Flow Finder Assemblies. Equipped with nickel-plated brass fittings (side location) for 1/8" preformed stainless steel pneumatic tubing. No wire cover assembly or mounting hardware supplied with this model.

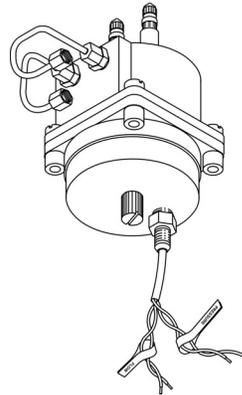
**9800-4200-SC**     **Sensor, Dual Transducer, Assembly Replacement, 3/8" Wire Cover Tubing Fitting**



Replacement dual (pressure/flow) transducer for use on Manifold and Flow Measurement Assemblies. Equipped with nickel-plated brass connectors (side location) for 1/8" preformed 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

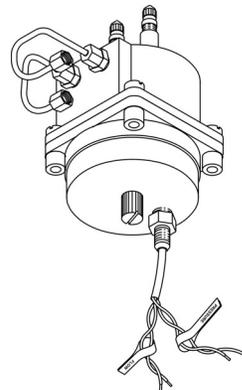
plastic tubing and 18 feet of 3-pair conductor wire (not shown).

**9800-4203-SC**     **Sensor, Dual Transducer, Assembly Replacement, 37° Flared Tubing Fitting**



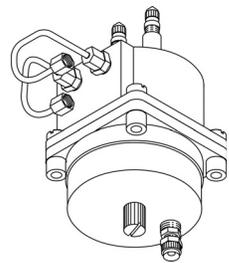
Replacement dual (pressure/flow) transducer for use on Manifold and Flow Measurement Assemblies. Equipped with nickel-plated brass connector fittings (side location) for 1/8", preformed stainless steel pneumatic tubing. Wire cover assembly includes a 37°, flared, stainless steel fitting (bottom location)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

**9800-4203-SCP**     **Sensor, Dual Transducer, Assembly Replacement, Pair Saver, 37° Flared Tubing Connector**



This transducer has the same fittings and components as the 9800-4203-SC, except that it is equipped with an internal Pair Saver which makes it possible to read the transducer's flow and pressure sensor using a single conductor pair. Conductor pairs and protective tubing are not supplied.

**9800-4204-SC**     **Sensor, Dual Transducer, Assembly Replacement, 1/4" Wire Cover Tubing Fitting**



Replacement dual (pressure/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.

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 DUAL TRANSDUCERS**

| PART NUMBER   | PNEUMATIC FITTINGS* |
|---|---------------------|
| 4200 STAND-ALONE<br>(this model includes a nickel-plated brass conductor tubing connector, 15 feet of plastic tubing, and 18 feet of 3-pair conductor wire) | BB, BR, SC          |
| 4201 CENTRAL OFFICE PANEL MOUNT<br>(this model includes a wire cover assembly with 2 conductor pairs in a protective sheath).                               | BB, BR              |
| 4202 TRANSDUCER HOUSING MOUNT<br>(this model does not include a wire cover assembly, center barrier plate, or tubing and conductors)                        | BB, BR              |
| 4203 STAND-ALONE<br>(this model is supplied with a 37° flared stainless steel conductor tubing connector; it does not include tubing or conductors)         | BB, BR, SC, SCP     |
| 4204 STAND-ALONE<br>(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 1/8" pre-formed stainless steel pneumatic tubing.
- SCP** Transducer supplied with internal Pair Saver and 1/8" pre-formed stainless steel pneumatic tubing.

**Ordering Examples:**

If you ordered part number 4201-BR (shown in the illustration below), you would receive a High Resolution Dual 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 4200-SC is a stand-alone dual 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.

