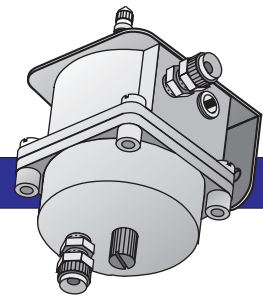


High Resolution Pressure Transducer



Redefining accuracy and range in air pressure monitoring

With the advancements taking place in leak locating technology and the increased importance of measuring flow in an air pressure system, it may seem that pressure doesn't play as important a part in the complete system as it once did. This couldn't be further from the truth. Accurate pressure readings are absolutely essential to the monitoring and maintenance of the system.

With today's emphasis on cutting costs and protecting a plant that includes an increasing number of critical service cables, leak locating needs to become more efficient and economical. And monitoring devices need to be more responsive. That's why we developed the High Resolution Pressure Transducer™. This transducer provides precise pressure readings over a wider scale and—in conjunction with our High Resolution Flow and Dual Transducers™, Flow Finder Manifold™, and Flow Finders™—it will also get you closer to a leak during routine and emergency leak locating procedures.

Utilizing loop current

The High Resolution Pressure Transducer, like our other transducers, outputs in loop current (in the range of 4 to 20 milliamperes), rather than electrical resistance. The mechanical parts found in other transducers have been replaced with solid-state components that provide reliability from reading to reading. The new transducer offers the stability and accuracy you need to effectively monitor your air pressure system.

Because the High Resolution Pressure Transducer does not use a stepped resistance scale, it offers extended reading capabilities and accuracy down to 1% of calibrated operating span. Special considerations were taken into account when designing this transducer, enabling it to easily interface with the 289H Loop Surveillance System (LSS)™ monitor and PressureMAP™ software.

Here's how it works

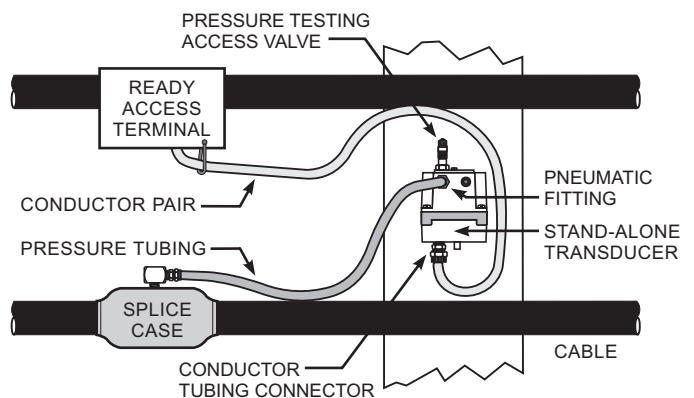
Using integrated-circuit technology and solid-state components, our new pressure transducer has an extended reading capability (0-30 Pounds per Square Inch), and is both extremely accurate and verifiable. The High Resolution Pressure Transducer senses a change in pressure and converts it to a change in electrical output, which is then read remotely by the 289H LSS. This design provides maximum stability and repeatability from reading to reading.

Pressure readings can be taken in increments of .1 Pounds per Square Inch (PSI) rather than the .5 PSI jumps that you find with other transducers. Not only does this enable you to take extremely accurate readings, but you can take them throughout the full range of the device: 0-30 PSI. This means that the same pressure transducer can be placed on an air dryer, where the highest pressures are expected, or it can be installed on the end of an air pipe route, where pressure is at its lowest. The High Resolution Pressure Transducer is ideal for most of the pressure monitoring applications in your system.

Installation Applications

All System Studies transducers can be mounted directly to access hole walls and telephone poles using our specially designed bracket, or they can be wired in any conventional 5- or 10-bank transducer housing. The High Resolution Pressure Transducers can also be installed in the central office at the back of existing pipe alarm and meter panels, or flush mounted in a standard equipment rack. They are provided in five configurations, depending on where they are used. See the accompanying ordering chart for more information.

Because of the High Resolution Pressure Transducer's extended reading capability and accuracy down to one tenth (.1) of PSI, it is the ideal device for monitoring the low output side of central office air dryers. Resistive devices, which read in half pound increments (.5 PSI), simply do not have the accuracy needed to identify the subtle changes in pressure that result from alternating dryers or dryer output cycles. These delivery pressure fluctuations are the cause of most central office nuisance alarms—those minor changes in flow transducer output that cross programmed alarm thresholds.



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The High Resolution Pressure Transducer can be fine-tuned by PressureMAP to not only eliminate nuisance alarms, but provide early warning of air dryer problems.

Pair Access

Like our other transducers, the High Resolution Pressure Transducer is equipped with an internal splicing cavity that simplifies the process of shooting trouble on the device pair. The protective bottom cover of the transducer can be removed to expose both the working pair and the backup pair. This internal splicing cavity eliminates the need for additional hardware and facilitates access to conductors.

Model Specifications

The High Resolution Pressure Transducer is calibrated at 0-15 PSI (0–103 kiloPascals); however, it may be read at 0-30 PSI (0–207 kPa), covering a complete range of pressure readings. Readings are calibrated in .1 PSI (.7 kPa) increments. All System Studies transducers operate on dedicated telephone circuits only.

Mechanical The transducer housing is constructed of nickel-plated brass with a mineral filled nylon barrier plate. The High Resolution Pressure Transducer is 2¼

inches (5.7 cm) high by 2½ inches (6.4 cm) wide. Input and output ports are 3/8-inch standard tubing fittings.

The mounting bracket, sold with the transducer, is stainless steel. Side holes, used to mount the bracket to a post or wall, 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 transducers is less than 1%. The transducers read zero absolute pressure. Any reading variations caused by changes in atmospheric and barometric pressure are corrected by the PressureMAP/289H Monitoring System, if a System Studies Barometric Transducer (P/N 9800-4050) is installed in the office.

Pressure Readings The transducer is equipped with a single access valve for manual pressure testing with a C pressure gauge.

For information on System Studies' High Resolution Flow Transducers, High Resolution Dual Transducers and Barometric Transducers, please refer to their respective data sheets. High Resolution Pressure Transducer, High Resolution Flow Transducer, High Resolution Dual Transducer, Flow Finder Manifold, Flow Finders, Flow Gauge, PressureMAP and 289H Loop Surveillance System (LSS) are trademarks of System Studies Incorporated.

HIGH RESOLUTION PRESSURE TRANSDUCERS

PART NUMBER	PNEUMATIC FITTING*
9800-4000 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, BS, SC
9800-4001 CENTRAL OFFICE PANEL MOUNT (this model includes a wire cover assembly with 2 pairs of conductors in a protective sheath).	BB, BR, BS, BT
9800-4002 TRANSDUCER HOUSING MOUNT (this model does not include a wire cover assembly, center barrier plate, or tubing and conductors)	BB, BS, BT, SS
9800-4003 STAND-ALONE (this model is supplied with a 37° flared stainless steel conductor tubing connector; it does not include tubing or conductors)	SC, SS
9800-4004 STAND-ALONE (this model is supplied with 1/4" nickel-plated brass conductor tubing connector; it does not include tubing or conductors)	BT, 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 Fitting:

- BB** Transducer supplied with nickel-plated brass, barbed pneumatic connector.
- BR** Transducer supplied with nickel-plated brass, barbed pneumatic connector on a 90° elbow.
- BS** Transducer supplied with nickel-plated brass, standard tubing connector. For use with 3/8" plastic tubing.
- BT** Transducer supplied with nickel-plated brass, 1/4 inch tubing connector.
- SC** Transducer supplied with nickel-plated brass connector. For use with 1/8" pre-formed stainless steel tubing.
- SS** Transducer supplied with stainless steel, 37° flared tubing connector. For use with 1/4" stainless steel braided tubing.
- NN** No pneumatic tubing connector supplied.

Ordering Examples:

If you ordered part number 4002-BS, for example, you would receive a High Resolution Pressure Transducer designed for a conventional five or ten bank transducer housing. The transducer would be supplied with a nickel-plated brass 1/4" male NPT fitting for standard 3/8" plastic tubing.

Pressure transducer model 4003-SS consists of a stand-alone model with a 37° flared stainless steel conductor tubing connector and a 37° flared pneumatic tubing connector (for use with 1/4" stainless steel braided tubing). This model is not supplied with conductor wires.