American Sensor Technologies, Inc.

Your sensor business partner...

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Media Contact: Jean Carl/610-565-2288 / fjcarl@comcast.net

AST Contact: Karmjit S. Sidhu/973-448-1901/ kssidhu@astsensors.com

AST ANNOUNCES PRESSURE SENSORS FOR HVAC, REFRIGERATION MARKETS

Mt. Olive, NJ - March xx, 2007. American Sensor Technologies, Inc. (AST) offers a variety of products to be integrated into HVAC and Refrigeration equipment. The AST solution begins with a one-piece, stainless steel construction that contains no internal seals or gaskets. Additional features include a high cyclical life (>100 million full cycles), long-term stability and compound ranges with linear output through zero *(i.e. -14.7 to 100PSI)*. Each product ensures a high level of EMI/RFI protection, in addition to holding hazardous area approvals [for equipment installed in classified locations], RoHS compliance [when requested] and is listed under UL/cUL standards.

Due to customer demands, AST is responding to Ammonia refrigeration pressure measurement requirements. Refrigeration pump and compressor manufacturers are moving towards the improved efficiency of Ammonia over Freon-based systems. However, the thermodynamic behavior of ammonia is very different from Freon. When the refrigeration pump turns on, the ammonia temperature rapidly changes from 100˚F to -70˚F or below. This accelerated change, along with the type of sensor diaphragm materials effects the pressure transducer performance and ultimately the control system.

O-ring sealed pressure sensors cannot withstand rapid thermal changes and over time the internal O-ring will fail. Fluid filled sensors suffer from freezing effects, which lead to the rupture of the diaphragm membrane. Thin film sensors [based on 15-5 and 17-4PH stainless steels] that have their diaphragm welded to a pressure port, will undergo thermal stresses that will eventually crack the steel.

Thermal Flash Protection™ is the technology applied by AST to reduce the effects of thermal flash transients when the media is Ammonia. First, AST utilizes its one-piece stainless steel sensing element with 316L wetted materials. This element is free of welds, oil-fill and internal O-rings. Next, a special non-clogging port design is used in order to minimize the extreme temperature change. The sensor will recognize a uniform temperature as to maintain system stability. To conclude, Thermal Flash Protection™ is the pressure sensing technology for ammonia refrigeration applications.

AST offers other HVAC/R solutions including an SAE4 (7/16-20 UNF) female pressure port that contains an internal Schraeder depressor pin. This port allows the sensor to be easily removed or installed in service, eventually eliminating the need for adaptors. AST also manufactures additional pressure ports, such as 1/8" NPT, 1/4" NPT and SAE4 male.

Common applications for AST products are refrigeration pump controls, chillers, Freon and Ammonia cooling systems, high pressure wells, boiler controllers and environmental testing. For more information on pressure measurement, please visit our website at www.astsensors.com or contact the factory at info@astsensors.com.

About AST

AST manufactures state-of-the-art, MEMS-based pressure sensors, transducers and transmitters that offer the best price-performance ratio in the industry. Common applications of AST sensor products are found in industrial OEM, hydraulic systems, fuel cells, medical gases, HVAC/R, refrigeration (ammonia, Freon, CO2), oil & gas exploration and production, and off-road vehicles. By combining exotic metals and AST's exclusive, proprietary Krystal Bond™ Technology [an advanced process in which inorganic materials are molecularly diffused onto a metallic surface in the presence of certain gases], AST can produce high-performance strain gauge pressure sensors that support the specialized needs of key niche markets. Many AST products are UL listed as intrinsically safe and certified for explosion-proof required environments. Some of the world's most highly respected industrial Fortune 500 corporations have tested and now use AST products in a wide range of critical and harsh environments. For more information on AST products and technology, go to AST's website at www.astsensors.com.