SELECT AIRE™ by Desert Aire

NATATORIUM BUILDING PRESSURE CONTROL

DIFFERENTIAL PRESSURE SENSOR

Building Pressure Control

Natatoriums should be maintained at a negative air pressure (0.05 to 0.15 in. of water) relative to the outdoors and adjacent areas of the building to prevent the forming of condensation in the wall and ceiling interstitial spaces; and to prevent the dispersal of chloramines, other noxious fumes and moisture to other occupied spaces in the building. The space pressurization scheme must be maintained during every hour of the year and for all possible operating conditions

Desert Aire's SelectAire™ natatorium dehumidifier uses an active method of pressure control that regulates an Electronically Commutated Motor (ECM) in the exhaust air stream to maintain the desired negative pressure. This method will reduce or increase the speed of fan to match the load and real-time needs of the natatorium's negative pressure requirements.

Transducer Features

The CA500 series pressure sensors incorporates a silicon capacitive sensing element in a compact package. Internal temperature compensation provides an accurate, easy to use device. The transducer provides a proportional signal to control the exhaust fan to maintain building pressurization.

The innovative design eliminates mounting position effects found on other low pressure differential sensors currently available in the market.

- Rugged Package
- Amplified Temperature Compensated Linear Output
- No Position Sensitivity
- EMI/RFI & ESD Protected
- Superior Output Signal Stability

Indoor Sensor

The indoor static pressure sensor should be mounted in a location not subject to damage from occupants. Place the sensor as far as practical from doors, grilles, and operable windows that may cause pressure fluctuations. Locate a minimum of 3' above the floor level in the pool area.

Figure 1 - Indoor Static Pressure Sensor (front and rear view)

DIFFERENTIAL PRESSURE SENSOR

Outdoor Sensor

A complication in measuring the building static pressure is the dynamic action of the wind. Measuring the wind's pressure instead of the true outdoor static pressure will alter the actual static pressure reading. Proper mounting of the outdoor static sensor will help ensure accurate readings.

The outdoor air static pressure sensor should be mounted at least 12 inches above surrounding obstacles and a minimum of 24 inches from a wall or Air Handling Unit. 50 feet of 1/8" clear pressure tubing is supplied with the sensor.

This package includes two sets of 1/8" pressure tubing each that are 50 feet in length. The tubing is installed in the field by the contractor and connected to the static pressure differential transducer in the dehumidifier.

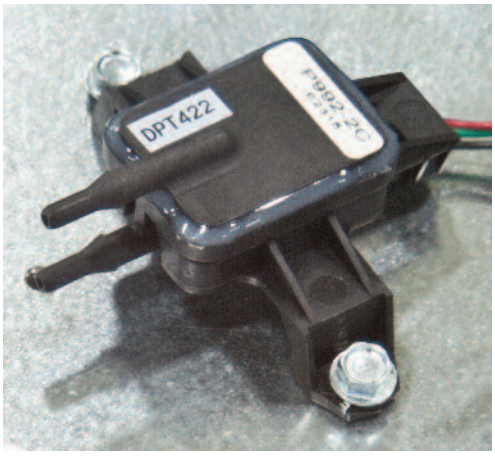

Figure 3 - Pressure Transducer in Electrical Box

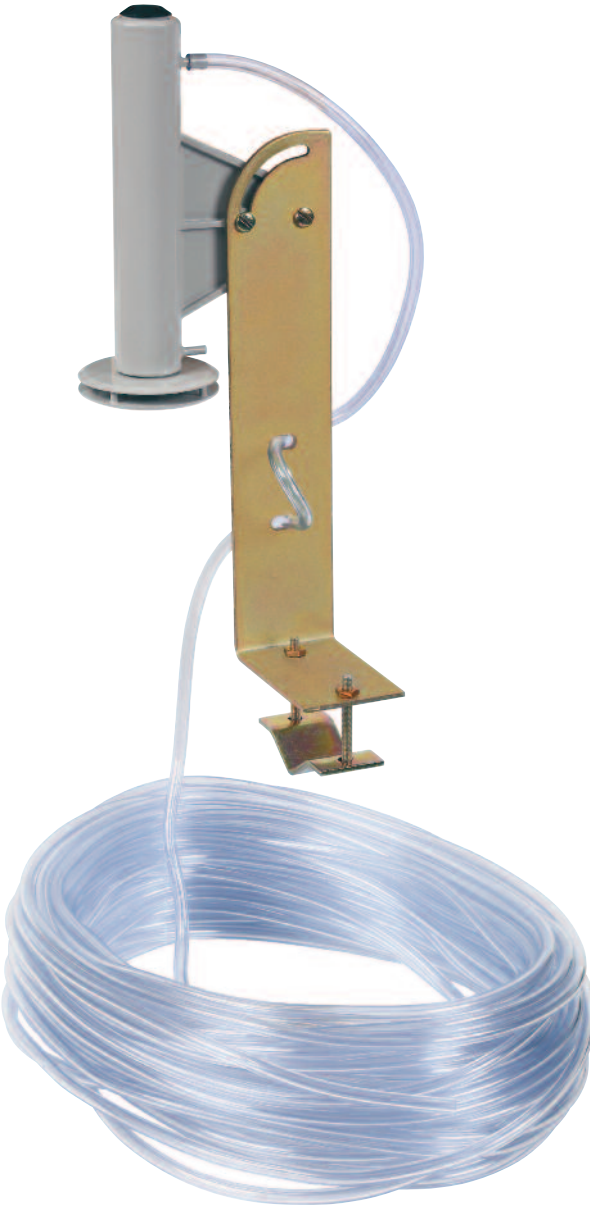

Figure 2 - Outdoor Static Pressure Sensor

OPTIMIZING SOLUTIONS THROUGH SUPERIOR DEHUMIDIFICATION TECHNOLOGY

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