Humidity Sensor Service Life

Application Notes

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Many of BAPI's customers ask; How long will a humidity sensor last?

BAPI has been supplying humidity sensors for 14 years. We estimate that over 90% of these units are still in service meeting their original specifications.

The best statistics available are for an eighty-three month period between January 1, 2002 and November 19, 2007. During those eighty-three months only 0.05% of the units sold were returned with an actual defect or deficiency, 99.05% of the sensors sold worked flawlessly.

What were the failures seen?

The failures were two major types, clogged outdoor and duct filters and chlorine contamination in swimming pool rooms.

Since December of 2006 BAPI has been supplying duct and outdoor relative humidity sensors with stainless steel filters. The older brass units corroded and plugged when used in industrial areas with manufacturing pollutants. In these cases when the brass filter was replaced the sensors were still within their specification limits.

Chlorine in swimming pool applications can be a problem. Some applications with high levels of chlorine wear out the sensor in as little as 9 months. Some pools have had their sensors working to specification for many years.

Estimated life expectancy

BAPI specifies the measurement drift of the relative humidity sensor to be less than 2% RH over a five year time period. In a typical commercial office or retail sales environment BAPI believes that the average life of a humidity sensor will be seven to ten years. The previous statement is BAPI's observation of typical service lifetimes, this typical life time statement does not extend our published warranty of two years for all humidity products. (See Price Book page I3 in BAPI's 2008 Product Catalog; available for download at http://www.bapihvac.com/Catalog2.htm)

Thank you for your attention. If you have any questions contact your BAPI representative.