



Vaisala DRYCAP® products include a selection of instruments for fixed installations and portable use.

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Vaisala DRYCAP® key features:

- Dewpoint measurement at low dewpoints
- Excellent long-term stability
- Fast response time
- Recovers from saturation

Vaisala engineers a solution

Vaisala DRYCAP® technology celebrates 10 years of happy customers

The Vaisala DRYCAP® technology was developed according to customer needs to measure low humidity with reliable technology. Customer problems with low humidity measurements, i.e. low dewpoint measurements, related to poor accuracy. Vaisala professionals were able to solve the challenges.

Old technologies unsatisfactory

There were some clear reasons why the then existing technologies could not offer better performance. The traditional relative humidity instruments that were successfully used for higher humidity measurements, typically from ambient levels up to saturation, were not accurate enough in very low humidity, where the relative humidity is approaching 0%RH. In terms of dewpoint, this means dewpoint temperatures below -10 °C.

Second, the typical technology that was used for low humidity measurements was an Aluminium Oxide sensor that was sensitive enough down to very low dewpoints (typically -70 to -80 °C Td). However, it was also sensitive to drift, which meant it required calibrating several times per year to keep the ±2 °C Td accuracy. Continuous calibration was costly and difficult.

The third option was to use an analyzer type of instrument with a purchase price ten times that of a dewpoint transmitter. A typical example of this is a condensation hygrometer that can offer very high

accuracy (even up to ±0.1 °C Td), but only if regularly maintained, typically daily.

Superior Vaisala measurement performance

With the new technology invented at Vaisala, all the problems of the old technologies were solved. The DRYCAP® technology is based on a thin-film polymer sensor. The polymer sensor is known to be a very stable and reliable technology. The DRYCAP® technology also applies autocalibration, a patented key feature that eliminates the sensor drifting at the dry end and allows dewpoint accuracy in the long-term. This technology combination offers performance that fulfills the market requirements, is easy-to-use, is cost-effective and has a very low need for maintenance.

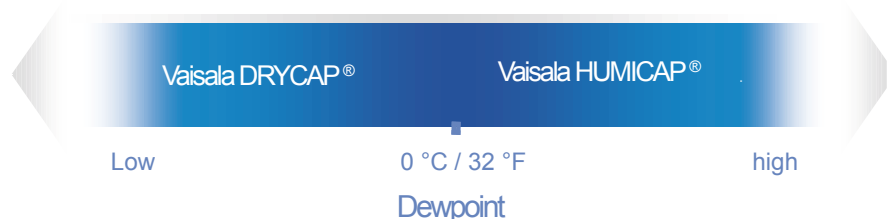
During the past 10 years a wide product range has been built up utilizing the superior DRYCAP® measurement performance. Today, the technology is available from a small-size low-cost dewpoint transmitter to a dewpoint transmitter

with a wide variety of options, including display, alarm and datalogging features.

Flexible tool for industrial applications

Another important feature of the DRYCAP® sensor technology is that it works extremely well as a portable tool, where the sensor is typically stored in ambient air and used only briefly to measure very dry gas or air. Thanks to DRYCAP® performance, the sensor adapts to dry conditions very quickly.

Vaisala DRYCAP® dewpoint sensor technology is used in industrial applications where the humidity of a gas, typically air, is very low. Typical applications are in compressed air or the plastic molding industry or in dry storage where the humidity is low (below 10%RH). A special model for extreme temperatures up to +350 °C is also available for high-temperature drying processes. This shows how flexible and suitable the technology is for industrial dewpoint measurements. ■



Vaisala DRYCAP® is one of the most reliable dewpoint measurement technologies for low dewpoint measurements and Vaisala HUMICAP® for high dewpoint measurements.