
Moisture Measurement in Naval and Military Applications

There are many processes and applications within the armed forces which require accurate measurement and control of moisture content, humidity or dewpoint.

Cockpit breathing air

Breathing air for aircraft pilots is stored and in pressurised cylinders, high pressure air must be dry in order to prevent freezing of the components and supply when the air is expanded.

A Michell Instruments Easidew Portable or MDM-300 can be used to measure the dewpoint of the air supply prior to use, in order to confirm the air is within specifications for dryness.

Missile launch systems

Most modern naval (and commercial) seagoing vessels utilise compressed air dryers to provide dry air for numerous uses.

Surface to Air missile weapons systems utilise cryogenic inert gases to cool the infrared seeker head to a very low temperature. The compressed gas storage and delivery system must be maintained at a very low dew point to prevent freezing.

Calibration

Where large numbers of dewpoint or RH transmitters are used, it is often required, for standards purposes, that they are verified regularly against a calibrated fundamental reference. The Opti-cal Humidity calibrator or S8000 Integrale are both suitable for this task, providing easy comparison with the accuracy and repeatability of cooled mirror measurements.

Dry Air Supplies

High pressure air must be dry to prevent freeze up of valves and components when the high pressure (typically 3000-5000 psig) air is expanded. Low pressure air must be dry to prevent condensation and resultant component damage.

An Easidew Transmitter, complete with Monitor and/or ES10 Sampling system, provides full online measurement, including an additional current output and two alarms for triggering of external systems when the dewpoint of the air leaves a user defined range.



Spot check measurements at points of use for full peace of mind about the gas supply can be facilitated by either an Easidew Portable dewpointmeter, or by the fully featured MDM-300 Portable dewpointmeter – which has the facility to log up to 8000 measurements.



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