Moisture Content using the Dew Point Method

10X MORE PRECISE; HALF THE OPERATING COST

■ Dry Enough? Too much moisture in pellets causes surface defects and structural weakness.

One of the challenges of plastic pellets is knowing when they're dry enough to use. Under-drying causes surface defects and structural weakness. Over-drying is expensive in time and energy costs.

How Dry is Dry Enough?

In plastic pellets, the difference in moisture content between "too wet" and "too dry" is small. Measuring when the pellets are dry enough requires precision and sensitivity.

A Fresh Approach

The AquaLab 4TE DUO uses the "Dew point Method" to measure moisture content. The Dew Point Method is a fresh approach to moisture content—high precision in a simple, chemical-free test.

Half the Cost

The Dew Point method's precision puts it in the same class with high-end moisture methods like Karl Fischer Titration.

But even compared with more common moisture balances, DUO costs less to run. For example, if you run 20 samples a day, you'll spend $1,598 on supplies (cups and standards) for DUO. At that same rate, you would spend $4,560 for weighing pans for a moisture meter.

10X the Precision

Precision varies with the type of product tested, but for many products dew point moisture content has 10x the precision of a typical moisture meter.

How It Works

The dew point method doesn't use chemicals or high temperatures.

Using it is as easy as sealing a lid over a sample and waiting for vapor equilibrium. Inside the instrument, an infrared beam focused on a tiny mirror determines the precise dew point temperature of the sample. That dew point temperature is then translated into moisture content and water activity readings.

Easy to Use

Because the instrument is lightweight, portable, and easy to use, it puts precision moisture content readings in the hands of virtually anyone on the production line or in the supply chain.

Ask for a Demo

To see if DUO will work for you, call 1-800-755-2751 to request a materials test. ■

DUO'S "DEW POINT" MOISTURE CONTENT METHOD

- Odor-free. No oven.
- Chemical-free.
- Precise—Reduces error by up to 90%.
- Verifiable with independent salt standards.
- Repeatable.
- Green—Uses 95% less energy.
- Portable—the meter weighs just 7 pounds.
- Easy to use—precise measurements with minimal training.
- Secure—offers administrative control over calibration and sample data.
- Complete moisture analysis: both moisture content and water activity.

AQUA LAB BY DECAGON

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1-800-755-2751
Int'l: 509-332-2756

AquaLab DUO

Series 4TE

Free Loaner Service

Free Technical Support

Free Application Support
over the life of the instrument

Specifications

Sensor Types
a. Chilled-mirror dewpoint.
b. Infrared temperature.

Accuracy
±0.003 a_w

Range
0.10 to 0.95 a_w

Moisture Content Precision
0.02%

Agreement to Moisture Content Reference Method
±0.1% to ±0.5%

Sample Dish Capacity
7 ml recommended (15 ml full)

Resolution
Moisture: ±0.01% mc
Water Activity: ±0.0001 a_w
Balance: not applicable, none.

Measurement Speed
Less than 5 minutes.

Display
128x64 pixel lcd display
with backlighting.

Results Displayed
Percent moisture
and water activity.

Temperature Control
15 to 50°C (±0.2°C)

Temperature Stability
User-selectable range, internal thermoelectric controlled.

Test Result Memory
10,000 readings (each reading includes water activity, moisture content, temperature, time, date, operator, and sensor used)

Program Identification
Alphanumeric; Programmable to display product name, lot, or product ID number.

Operating Environment
4 to 50°C (39.2 to 122°F)
0 to 90% Relative Humidity (non-condensing.)

Universal Power
110 V to 220 V AC, 50/60 Hz
Less than 0.4 amps.

Data Interface
RS232A compatible,
8-data bit ASCII code,
9600 baud, no parity, 1 stop bit,
cable included.

Case Dimensions
26.7 x 17.8 x 12.7 cm
(11 x 7.1 x 5.1 in)

Case Material
Machined aluminum frame;
injection molded plastic cover.

Weight
3.18 kg (6.9 lb)

Warranty
Three years, factory parts & labor.

Certifications
CE; AOAC Approved Method for Measurement of Water Activity

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