NOVATRON SCIENTIFIC

*Lab*MASTER-aw CM3

The new global standard in water activity testing for *high ethanol* based products for the *oil and gas industries* –highest precision, best quality.

A top-class laboratory instrument for precision measurements of aw values (water activity) suited to the oil and drilling muds production industry where high concentrations of ethanol are present, ranging 0 - 1.0aW. The temperature of the measurement chamber may be set in the range from 0°C to 50°C and is kept consistently within +/-0.2°C.

This instrument offers the most widely used aw measuring technology throughout the world. The advantages are appreciated by research, development and also quality control.

This special version, Labmaster-aw CM3, has been especially developed to permit accurate measurements of materials high in ethanol content such as in the oil drilling muds industry. Evaluations carried out at leading research centres have proven that reliable and accurate aw testing is possible even with up to 20% concentrations of methanol. This is due to a unique formulation of chemicals within the electrolytic sensor material that has not been possible with other manufacturers.

Measuring range aw	:	**0.00 ... 1.00aw**
Measurement chamber temperature	:	**selectable 0 ... 50°C, +/- 0.2°C**
Sensor type	:	electrolyte resistive measurement cell CM-3
Accuracy	:	**+/- 0.003aw / 0.2°C at 25°C** when the system is calibrated at min. 6 points Repeatability **+/- 0.002aw**
Communication	:	RS-232 interface, PC software

*Lab*MASTER-aw

High-precision, fast, flexible and easy!

A well-proven laboratory precision instrument for reproducible, precise aw measurements under accurately controlled temperature conditions for all types of food product, cosmetics as well as dry pharmaceutical materials. The ***Lab*MASTER-aw** is the only instrument that enables measurements under precisely controlled chamber temperature conditions, selectable in the following range: 0°C to 50°C, with a precision of 0.2K.

The device and its sensor are very robust and have an excellent long-term stability. The Novasina electrolyte sensor delivers essentially hysteresis-free measurements. The implemented user management systems allows a simple and intuitive operation. The system is available in 3 different versions **"BASIC"** (single user),**"STANDARD"** (multi user) and **"ADVANCED"** (multi user and multi channel). This improves considerably the cost efficiency .

The large, illuminated graphic LCDisplay gives a clear overview. The menu software is simple and intuitive.

For a connection to a printer or a PC, an RS-232 or USB interface is built into the device. A PC-Software for Win9x/2000/NT/XP is included in the instrument delivery. A recorder can be connected to the 0…10 volt analogue output.

***Lab*MASTER-aw instrument:**
Surface area: width 26, depth 44 cm
Weight : 9.8 kg
Mains supply: 90V…260V, 50/60Hz, wide range power supply

***Humidity sensor*:**
Electrolyte measurement cell CM-3

Range	: 0.03...1.00aw in the range of 0…50°C.
Repeatability	: +/- 0.002aw
Accuracy	: +/- 0.003aw at 25°C *when fully calibrated*
Resolution	: 0.001aw / 0.1°C

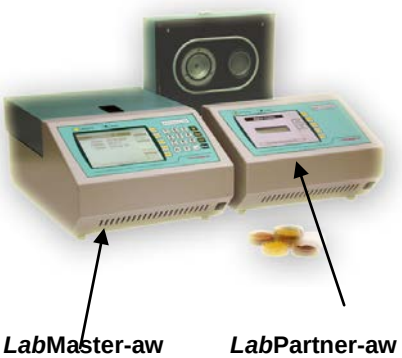
Temperature sensor:
Precise NTC resistor

Range	: -20...80°C
Repeatability	: +/- 0.1° C
Accuracy	: +/- 0.3° C
Resolution	: 0.1°C

Humidity standards for calibration:
SAL-T salt tablets:
Saturated pure salt solutions, based on national standards. Novasina recommends the following calibration values:

6%, 11%, 33%, 53%, 75%, 90% and 97% rh

Multi Channel System



***Lab*Master-aw** **Lab*Partner-aw**

This professional laboratory instrument system allows you to run from **2** to a maximum of **10** aw (water activity) measurement devices simultaneously for measuring the aw values in foodstuff, drugs and cosmetics:

1 *Lab*MASTER-aw *CM3 advanced* runs from **1 to 9 *Lab*PARTNER-aw** units.
The temperature of each chamber can be set in the range from 0°C to 50°C.
This instrument version completes ideally the *Lab*MASTER-aw *basic* and the *Lab*MASTER-aw *standard* types. It allows an extension from a single channel up to a ten channel system, unit by unit, whenever there is a need for extend it.

Measuring range aw	:	**0.03 ... 1.00 aw**
Measurement chamber temperature	:	**selectable 0 ... 50°C +/- 0.2K**
Sensor type	:	electrolyte resistive measurement cell CM-3
Accuracy	:	**+/- 0.003aw, 0.2°C at 2°C** when the system is calibrated at min. 6 points
Repeatability	:	+/- 0.002aw
Communication per channel	:	RS-232 or USB interface, PC-Software Novalog32 for single channel monitoring

Multi Channel System

High-precision, fast, flexible and easy!

The *Lab*MASTER-aw series is a laboratory instrument generation with the flexibility to add single channels, depending on your needs. Each channel provides reproducible and accurate aw value measurements in various types of samples such as food products, drugs, cosmetics etc.. A selectable, continuously controlled temperature between 0°C and 50°C (max. 25°C below room temperature) enables correct and reliable measurement results. The sample measuring chamber temperature is stabilized electronically within 0.2K.

This device and its sensors are very robust, excel in long-term stability characteristics and has been specifically developed for continuous operation. The unique properties of the Novasina electrolyte sensors with their lack of hysteresis through the complete system yield very exact and reproducible measurements.

All measured values on each channel are displayed on a large, clearly arranged illuminated LCDisplay. Each channel can be configured individually and optimised using a menu-driven procedure. The ***Lab*MASTER-aw *advanced*** offers an RS-232 or USB interface for communication with a PC. The single channel software Novalog32 is included in the delivery.

Examples of aw measurement samples:

- Ethanol & methanol based oil drilling muds
- Shale
- Oil & water emulsions
- Powders
- Granules

Multi Channel System:

***Lab*MASTER-aw CM3 instrument:**
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***Lab*MASTER / *Lab*PARTNER-aw:**
Surface area: width 26, depth 44 cm
Weight : 9.8 kg

***Humidity sensor*:**
Electrolyte measurement cell CM-3
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