General Catalogue AW

2015

Water activity measurement instruments

for

Foodstuff

Food ingredients

Chemicals

Cosmetics

Pharmaceuticals

Materials

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www.novasina.com
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LabStart-aw

Portable low cost precision instrument for water activity measurement (aW) in foodstuff and powder products

This compact low cost water activity measurement device is intended for a mobile measurement directly at-line and has been developed for standard applications and for users, who want to start with the water activity measurement.

Its accuracy can be checked at any time using re-usable saturated salt calibration standards.

The LabStart-aw is delivered including all necessary accessories.

Measurement range aw: 0.20 ... 0.80a_w
Measurement range temp.: 15 ... 30 °C
Sensor: with resistive-electrolytic measurement cell CM-4
Accuracy: +/- 0.03 a_w +/- 0.3K

LabStart-aw
Mobile, accurate, reliable and low cost

A good start is essential for every project and undertaking. That is why the LabStart-aw has been developed to introduce quality managers, production personnel and laboratory technicians to water activity measurement. This instrument is simple-to-operate, providing basic measurement functions, yet still having built-in automatic equilibrium detection and the well-proven resistive-electrolytic sensor technology as employed in all Novasina water activity meters. As standard, the LabStart-aw is supplied with one re-useable humidity calibration standard which provides a very economical solution to precision water activity measurements in one simple kit. Furthermore, the calibration standard is an easy method for verification of the instrument’s high performance.

Optional chemical protection filters assist with high solvent-content samples, as well as accurate water activity detection with high repeatability.

Although the LabStart-aw is a starter instrument, it offers great value, is simple and easy-to-use.

Are you ready to begin your water activity measurements?

Measurement device
LabStart-aw:
Dimensions: 85x140x225 mm (HxWxL)
Weight: 1.2 kg
Power supply: External supply
Operation ranges:
Temperature: 15 ... 30 °C
a_w: 0.20 ... 0.80 a_w

Humidity sensor:
Electrolyte measurement cell
Type: CM-4 incl. stored calibration values (33, 75%RH)

Temperature measurement:
Precision NTC temperature sensor

Typical samples:
• Pastries, bread and similar
• Cereals
• Spices
• Powders, dried samples
• Dried foodstuff in general

Humidity standards
Salt tablets SAL-T:
Various re-usable salt solutions are available for instrument verification and calibration. For more information please consult the chapter accessories.
**LabStart-aw set**

The new LabStart-aw is a precise and handy instrument for the aw-value measurement of foodstuff, powder products. It is delivered including all accessories.

The device can be checked and adjusted at any time with the included SAL-T humidity standard.

**LabStart-aw set**  
**260 0992** incl. power supply

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**LabStart-aw set consisting of:**

- Measurement device LabStart-aw
- External universal power supply
- 1 SAL-T: 75% RH
- 25 sample dishes ePW
- Spare pre-filters white (5 pcs)
- Tension ring
- Factory certificate of 2-point calibration 33% and 75% RH

Weight: 1.500 kgs

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**Accessories for LabStart-aw**

**External power supply with universal plug insert for all socket standards**

Power supply and battery charger  
**Attention:** Please use only the external power supply delivered by Novasina.

**External power supply**  
**260 0505** with universal plugs

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**Sample dishes ePW**

Box with 100 sample cups.  
These cups are for all Novasina aw instruments. They are disposable, intended for a single use.

**111 0601** ePW sample dishes

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**SAL-T salt tablets**

Standards based on saturated salt solutions in plastic tablets with humidity-permeable membranes. Each salt is delivered in an airtight can. SAL-T are available with following humidity values (at 25°C):

<table>
<thead>
<tr>
<th>Humidity (% RH)</th>
<th>Value at 25°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.4</td>
<td>52.9</td>
</tr>
<tr>
<td>6.4</td>
<td>57.6</td>
</tr>
<tr>
<td>11.3</td>
<td>75.3</td>
</tr>
<tr>
<td>22.5</td>
<td>84.3</td>
</tr>
<tr>
<td>32.8</td>
<td>90.1</td>
</tr>
<tr>
<td>43.2</td>
<td>97.3</td>
</tr>
</tbody>
</table>

**Humidity values in the temperature range 15°...30°C:**

<table>
<thead>
<tr>
<th>Humidity (% RH)</th>
<th>Value at 15°...30°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.3</td>
<td>3.0% rh</td>
</tr>
<tr>
<td>6.9</td>
<td>6.2% rh</td>
</tr>
<tr>
<td>11.3</td>
<td>11.3% rh</td>
</tr>
<tr>
<td>23.4</td>
<td>21.6% rh</td>
</tr>
<tr>
<td>33.3</td>
<td>32.4% rh</td>
</tr>
<tr>
<td>43.2</td>
<td>43.2% rh</td>
</tr>
<tr>
<td>55.9</td>
<td>51.4% rh</td>
</tr>
<tr>
<td>60.7</td>
<td>56.0% rh</td>
</tr>
<tr>
<td>75.6</td>
<td>75.1% rh</td>
</tr>
<tr>
<td>85.9</td>
<td>83.6% rh</td>
</tr>
<tr>
<td>90.9</td>
<td>89.9% rh</td>
</tr>
<tr>
<td>97.9</td>
<td>97.0% rh</td>
</tr>
</tbody>
</table>

The precision corresponds to eg. the Greenspan Report 1977 typically +/- 0.3 % rh

**Important:** please consult the operation manual of your instrument to see which points can be calibrated. Other SAL-T can be used for verification.

**Weight:** 50 g each
Salt tablets SAL-T/C certified with European certificate

Humidity standards based on saturated salt solutions in plastic tablets with humidity-permeable membranes. Each salt is delivered in an airtight can. SAL-T are available with the following humidity values (at 25°C):

<table>
<thead>
<tr>
<th>Humidity (%)</th>
<th>6.4%</th>
<th>52.9%</th>
<th>90.1%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>11.3%</td>
<td>57.6%</td>
<td>84.3%</td>
</tr>
<tr>
<td></td>
<td>32.8%</td>
<td>75.3%</td>
<td>97.3%</td>
</tr>
</tbody>
</table>

Important: please consult the operation manual of your instrument to see which points can be calibrated. Other SAL-T can be used for verification.

Set of 5 SAL-T salt tablets

Humidity standards based on saturated salt solutions in plastic tablets with humidity-permeable membranes. Each salt is delivered in an airtight can. The set consists of a case containing one each of the following values (at 25°C):

<table>
<thead>
<tr>
<th>Humidity (%)</th>
<th>11.3%</th>
<th>32.8%</th>
<th>57.6%</th>
<th>75.3%</th>
<th>84.3%</th>
</tr>
</thead>
</table>

Case with 5 salt tablets

Humidity values in the temperature range 15° ... 30°C:

11.3 ...... 11.3% rh
33.3 ..... 32.4% rh
60.7 ...... 56.0% rh
75.6 ...... 75.1% rh
85.9 ..... 83.6% rh

The precision corresponds to the Greenspan Report 1977 typically +/- 0.3 % rh

Certification

of an aw measurement instrument in an accredited European laboratory

A UKAS-laboratory will certify the instrument at two or more humidity values and at several different temperatures if required.

Cell protection filters

A number of filters are available to protect the measurement cell from abrasion or corrosive volatiles.

-> Please consult the Novasina filter data sheet for more details about the sample substances and the correct selection of the most suitable filter for your application.

Cell protection filter REDOX

Special protection filter against volatiles such as aromatic substances, ethanol, glycol etc. which can be present in a sample.

Important: this filter is subject to saturation, therefore it must be checked and replaced regularly.

-> Please consult the Novasina filter data sheet for more details about the sample substances and the correct selection of the most suitable filter for your application.
Spare parts for **LabStart-aw**

### Spare parts to measurement head **LabStart-aw**:

1. **Gasket** to LabStart-aw  
   **Recommendation**: Seal ring should be replaced and lubricated regularly.
2. **Pre-filter white**, 5 pcs
3. **Tension ring** for filter fixation

**Remark**: these spare parts are the same as used for LabSwift-aw and LabTouch-aw

### CM-4 measurement cell

(only for LabStart-aw instruments)
Replaceable, calibrated measurement system with calibration point memory on the basis of the unique Novasina „Novalyte“ technology. The inbuilt active heating element avoids condensation on the humidity sensing element.

**Attention**: do not touch the top of the measurement cell. Neither by hand nor with any other object!

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**Spare parts to LabSwift-aw**:

- Gasket
- Pre-filter white
- Tension ring

**Weight**:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10 g</td>
</tr>
<tr>
<td>2</td>
<td>10 g</td>
</tr>
<tr>
<td>3</td>
<td>5 g</td>
</tr>
</tbody>
</table>

**CM-4 measurement cell**

(in only for LabStart-aw instruments)

**Measurement system CM-4**:

- **Meas. range**: 0.03…1.00\(a_w\)
- **Storage temp.**: 0…50°C
- **Storage humidity**: 10...80% RH

Calibrated at the following points: 33% and 75% RH

**Weight**: approx. 2 g
Portable, battery powered precision instrument for water activity measurement (aW) in foodstuff, pharmaceuticals, chemical products and cosmetics

This compact and handy water activity measurement device with optional rechargeable batteries can be easily used for mobile measurement of the quality parameter water activity (aW) directly at-line or in small laboratories.

Its accuracy can be checked at any time using re-usable saturated salt calibration standards.

The instrument is delivered incl. all accessories and carrying case.

**Measurement range aW**: 0.11 ... 0.90a_w, (non condensing)
**Measurement range temp.**: 5 ... 45°C
**Sensor**: with resistive-electrolytic measurement cell CM-2
**Accuracy**: +/- 0.01 a_w, +/- 0.15K
**Communication**: SD card -> PC

LabSwift-aw
Mobile, fast, accurate, reliable

The LabSwift-aw instrument combines modern technology with measurement speed and high accuracy. Thanks to the Novasina electrolyte sensor the device is able to determine the aW-value very accurately in products of all kinds. Furthermore it is robust, stable and maintenance-free.

The integrated large LC-Display eases the value reading. The ergonomic design and the optional Lithium-Ions long life battery allows a mobile measurement. For stationary use an external power supply is available. The air-tight measurement chamber (not temperature controlled) disposes of a spring-loaded measurement head. The temperature can be read at any time on the display. The new developed stability value settings enable an easy handling for optimal aW measurements. The stability status is appears on the instrument's display. A data logging function by SD card permits a storage of all measurement data, including the protocols, which can be easily transferred to a PC or printer. A special software is available for a detailed analysis of these data.

The instrument is delivered with a robust plastic carrying case including accessories such as humidity standards, filters, ePW sample dishes etc..

**Measurement device LabSwift-aw:**

- **Dimensions**: 85x140x225 mm (HxWxL)
- **Weight**: 1.2 kg
- **Power supply**: External supply and/or Lithium-Ions battery (optional) 1700 mAh

**Operation ranges:**
- **Temperature**: 5 ... 45°C
- **a_w**: 0.11 ... 0.90 a_w

**Humidity sensor:**
Electrolyte measurement cell
- **Type**: CM-2 incl. stored calibration values (11, 33, 58, 75, 90%RH)

**Temperature measurement:**
Precision infrared surface sensor as well as NTC temperature sensor

**Humidity standards**
Salt tablets SAL-T:
Various re-usable salt solutions are available for instrument verification and calibration. For more information please consult the chapter accessories

Typical samples:
- Pastries, bread and similar
- Cereals
- Milk powder, spices
- Powders, dried samples
- Dried foodstuff in general
# Measurement instrument LabSwift-aw

## LabSwift-aw sets

### LabSwift-aw set (without battery)

**LabSwift-aw set**

The new LabSwift-aw is a precise and handy instrument for the aw-value measurement of foodstuff, pharmaceuticals and cosmetics. It is delivered with a plastic carrying case including accessories. A SD-card interface enables the transfer of all measurement data to a PC or printer.

The device can be checked and adjusted at any time with the included SAL-T humidity standards.

**LabSwift-aw set consisting of:**

- Measurement device LabSwift-aw
- External universal power supply
- SD card
- 3 SAL-T: 11, 58, 84% RH
- 40 sample dishes ePW
- Spare pre-filters white (5 pcs)
- Tension ring
- Operating instructions
- Factory calibration certificate of the 6-point calibration 11-33-58-75-84-90%

**Weight:** 3.000 kgs

### LabSwift-aw Set (with battery)

**LabSwift-aw set & BAT**

The new LabSwift-aw is a precise and handy instrument for the aw-value measurement of foodstuff, pharmaceuticals and cosmetics. The built in Lithium-Ions rechargeable battery allows mobile measurements. The set is delivered with a plastic carrying case including accessories. A SD-card interface enables the transfer of all measurement data to a PC or printer.

The device can be checked and adjusted at any time with the included SAL-T humidity standards.

**LabSwift-aw set consisting of:**

- Measurement device LabSwift-aw
- External universal power supply
- Battery incl. electronics (built in)
- SD card
- 3 SAL-T: 11, 58, 84% RH
- 40 sample dishes ePW
- Spare pre-filters white (5 pcs)
- Tension ring
- Operating instructions
- Factory certificate of 6-point calibration, 11-33-58-75-84-90%

**Weight:** 3.100 kgs

### Accessories for LabSwift-aw

**External power supply with universal plug insert for all socket standards**

Power supply and battery charger

Attention: Please use only the external power supply delivered by Novasina.

**Power supply:**

90-264 VAC / 50-60Hz

Output: +5 VDC / 10W

Plug: Stereo plug (instrument side)

Diameter 4 mm

Weight: 130 g

**Battery set to LabSwift-aw**

**Lithium-Ions rechargeable battery & electronics**

Optional battery set for mobile power supply of the LabSwift-aw. In continuous operation the LabSwift-aw runs >20 hours with this battery.

Attention: The assembly of the battery shall only be made by a qualified Novasina representative.

**Battery set to LabSwift-aw:**

- Lithium-Ions rechargeable battery with electronics:
  - Battery with PCB: +3.7 VDC
  - Capacity: 1700 mAh
  - Weight: 50 g

For LabSwift-aw only!
**PC software Novalog MC**

This optional Windows software allows the analysis and graphical display of the measurement data.

**Software suitable for:**
Windows 98/2000/XP/Vista and Windows 7

**Consisting of:**
CD with Novalog MC software for Windows system

**Weight:** 180g

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**Sample dishes ePW**

Box with 100 sample cups.

These cups are for all Novasina aw instruments. They are disposable, intended for a single use.

**A box contains:**
100 sample cups ePW

**Material:** Polypropylene

**Dimensions:** 40mm diameter x 12mm depth

**Weight:** 440g

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**SAL-T salt tablets**

Standards based on saturated salt solutions in plastic tablets with humidity-permeable membranes. Each salt is delivered in an airtight can. SAL-T are available with following humidity values (at 25°C):

- 3.4%: 52.9%
- 6.4%: 57.6%
- 11.3%: 75.3%
- 22.5%: 84.3%
- 32.8%: 90.1%
- 43.2%: 97.3%

**Humidity values in the temperature range 15° .... 30°C:**

- 4.3: 3.0% RH
- 6.9: 6.2% RH
- 11.3: 11.3% RH
- 23.4: 21.6% RH
- 33.3: 32.4% RH
- 43.2: 43.2% RH
- 55.9: 51.4% RH
- 60.7: 56.0% RH
- 75.6: 75.1% RH
- 85.9: 83.6% RH
- 90.9: 89.9% RH
- 97.9: 97.0% RH

**Important:** please consult the operation manual of your instrument to see which points can be calibrated. Other SAL-T can be used for verification.

**Internationally accredited laboratory:**

All Novasina humidity standards are also available with an internationally recognised certificate from an accredited European laboratory (UKAS England)

**Weight:** 50g each

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**Salt tablets SAL-T/C certified with European certificate**

Humidity standards based on saturated salt solutions in plastic tablets with humidity-permeable membranes. Each salt is delivered in an airtight can. SAL-T are available with the following humidity values (at 25°C):

- 6.4%: 52.9%
- 11.3%: 75.3%
- 32.8%: 90.1%
- 32.8%: 97.3%

**Humidity values in the temperature range 15° .... 30°C:**

- 4.3: 3.0% RH
- 6.9: 6.2% RH
- 11.3: 11.3% RH
- 23.4: 21.6% RH
- 33.3: 32.4% RH
- 43.2: 43.2% RH
- 55.9: 51.4% RH
- 60.7: 56.0% RH
- 75.6: 75.1% RH
- 85.9: 83.6% RH
- 90.9: 89.9% RH
- 97.9: 97.0% RH

**Important:** please consult the operation manual of your instrument to see which points can be calibrated. Other SAL-T can be used for verification.

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**Set of 5 SAL-T salt tablets**

Humidity standards based on saturated salt solutions in plastic tablets with humidity-permeable membranes. Each salt is delivered in an airtight can. The set consists of a case containing one each of the following values (at 25°C):

- 11.3%: 75.3%
- 32.8%: 84.3%
- 57.6%

**Humidity values in the temperature range 15° .... 30°C:**

- 11.3: 11.3% RH
- 23.4: 21.6% RH
- 33.3: 32.4% RH
- 43.2: 43.2% RH
- 55.9: 51.4% RH
- 60.7: 56.0% RH
- 75.6: 75.1% RH
- 85.9: 83.6% RH
- 90.9: 89.9% RH
- 97.9: 97.0% RH

**The precision corresponds to the Greenspan Report 1977 typically +/- 0.3 % RH**

**Weight:** 670g
 Certification of an aw measurement instrument in an accredited European laboratory
A UKAS-laboratory will certify the instrument at two or more humidity values and at several different temperatures if required.

Accredited lab:

Certified instruments can be also supplied.

Cell protection filters
A number of filters are available to protect the measurement cell from abrasion or corrosive volatiles.

-> Please consult the Novasina filter data sheet for more details about the sample substances and the correct selection of the most suitable filter for your application.

Cell protection filters:
111 1001 -> eVC-21 (10 pcs)
111 1003 -> eVC-26 (10 pcs)
111 0995 -> eVALC (2 pcs)

Dimensions : 36 x 3mm
Weight : 30 g each filter

Cell protection filter REDOX
Special protection filter against volatiles such as aromatic substances, ethanol, glycol etc. which can be present in a sample.

Important: this filter is subject to saturation, therefore it must be checked and replaced regularly.

-> Please consult the Novasina filter data sheet for more details about the sample substances and the correct selection of the most suitable filter for your application.

Cell protection filters:
111 7212 -> Redox (1 pc)

Dimensions : 36 x 3mm
Weight : 60 g

Spare parts for LabSwift-aw

Spare parts to measurement head LabSwift-aw:
1 Gasket to LabSwift-aw
   Recommendation: Seal ring should be replaced and lubricated regularly.
2 Pre-filter white, 5 pcs
3 Tension ring for filter fixation

Remark: these spare parts are the same as used for LabStart-aw and LabTouch-aw

Spare parts to LabSwift-aw:
- Gasket
- Pre-filter white
- Tension ring

Weight:
1 : 10 g
2 : 10 g
3 : 5 g

SD card to LabSwift-aw
SD-card for measurement data and protocol storage. The data can be analysed by spreadsheet programs or by the optional Novalog MC PC-software.

Consisting of:
- SD memory card 2 GB
- Blister

Weight: 6g

CM-2 measurement cell
Replaceable, calibrated measurement system with calibration point memory on the basis of the unique Novasina „Novalyte“ technology. The inbuilt active heating element avoids condensation on the humidity sensing element.

Attention: do not touch the top of the measurement cell. Neither by hand nor with any other object!
LabTouch-aw

The new laboratory instrument WITH TOUCH-SCREEN for water activity measurement in foodstuff, drugs and cosmetic products.

Measurement device with touch-screen combined with a semi-temperature-stabilised measurement chamber for consistent and reproducible measurement results (aw-value).

The LabTouch-aw, with its ergonomic design and the touch-screen, makes water activity measurements easier than ever before. Semi-temperature-control and active sample temperature measurements by an integrated infrared sensor, provide the highest possible reliability of measurements.

Measurement range aw: 0.06 ... 0.97 aw, (non condensing)
Measurement range temp.: 5 ... 45 °C
Sensor: with resistive-electrolytic measurement cell CM-2
Accuracy: +/- 0.005 aw, +/- 0.15 K
Communication: RS-232, USB
2x RS-485 for add. chambers
SD card -> PC (NovaLog MC)

LabTouch-aw
Fast, accurate, reliable, easy to operate

Experience the next generation of high quality water activity meters made by Novasina. Touch a new world, driven by the ease of use and fast menu access by a touch-screen combined with a semi-temperature-stabilised measurement chamber for consistent and reproducible measurement results (aw-value). The latest sensor and measurement technology coupled with re-useable humidity calibration standards provide a very economical solution to precision water activity measurements. Furthermore, the standards are an easy method for double-checking the instrument and sensor’s high performance.

All measurement data, including the important protocols are stored on a SD card and can be transferred to a PC or printer. Special software is available for viewing results and analysis of the data. This assures confidence in readings for quality assurance and traceability of all measurement values.

The LabTouch-aw assures high accuracy and reproducibility, long-term stability, ease of use and an economical measurement system. Get ready for the new standard for aw-value measurement.

Typical samples:
- Lean meat, fresh meat
- Bakery products with filling
- Fruits, dried products, milk powder, spices
- Chocolate
- Cosmetics
- Petfood

Measurement device LabTouch-aw:
- Dimensions: 105 x 200 x 300 mm (HxWxL)
- Touch-screen: 55 x 95 mm (color LCD)
- Weight: 2.8 kg
- Power supply: External supply

Operation ranges:
- Temperature: 5 ... 45 °C
- aw: 0.06 ... 0.97 aw

Humidity sensor:
- Electrolyte measurement cell
  - Type: CM-2 incl. stored calibration values (11, 33, 58, 75, 84, 90, 97%RH)

Temperature measurement:
- Precision infrared surface sensor as well as NTC temperature sensor

Measurement chamber temp. control:
- Accuracy: +/- 0.05 °K
- Chamber temperature must be always +2 °C above environmental temperature.

Humidity standards
- Salt tablets SAL-T:
  - Various re-usable salt solutions are available for instrument verification and calibration. For more information please consult the chapter accessories.
**LabTouch-aw "BASIC"**

Bench-top laboratory measurement instrument with semi-temperature controlled measurement chamber and touch-screen.

Further functions:

- Stability parameter, time & date displayed on LCD screen
- Semi-temperature-stabilized measurement chamber
- Re-usable SAL-T humidity standards
- Fast and precise thanks to "Novalyte" technology
- Specific chemical sensor protection filters available
- Calibration data is stored on the sensor
- Data logging function with SD card
- Factory calibration at 7 aW-value points
- Checking, testing and adjusting possibilities with SAL-T humidity standards

**LabTouch-aw includes:**

- Dimensions: 200 x 300 x 95 mm
- Weight: 2.800 kg
- Measurement device LabTouch
- External universal power supply
- SD card 2GB Memory
- 4 SAL-T: 33, 58, 75, 84% RH
- 40 sample dishes ePW
- Spare pre-filters white (5 pcs)
- Tension ring
- Operating instructions
- Factory certificate of 7-point calibration, 11-33-58-75-84-90-97%

**LabTouch-aw "ADVANCED"**

Bench-top laboratory measurement instrument with semi-temperature controlled measurement chamber and touch-screen.

Further functions:

- Stability parameter, time & date displayed on LCD screen
- Semi-temperature-stabilized measurement chamber
- Re-usable SAL-T humidity standards
- Fast and precise thanks to "Novalyte" technology
- Specific chemical sensor protection filters available
- Calibration data is stored on the sensor
- Data logging function with SD card
- Factory calibration at 7 aW-value points
- Checking, testing and adjusting possibilities with SAL-T humidity standards
- Option to connect max. 2 external chambers LabClick-aw

**LabTouch-aw includes:**

- Dimensions: 200 x 300 x 95 mm
- Weight: 2.800 kg
- Measurement device LabTouch
- External universal power supply
- SD card 2GB Memory
- 4 SAL-T: 33, 58, 75, 84% RH
- 40 sample dishes ePW
- Spare pre-filters white (5 pcs)
- Tension ring
- Operating instructions
- Factory certificate of 7-point calibration, 11-33-58-75-84-90-97%
- Novalog MC software
- USB interface

**LabClick-aw**

External chamber with 2-line LCD display to be connected to a LabTouch-aw "ADVANCED" for extended measurement capacity. Operation and calibration is made by the main unit LabTouch-aw "ADVANCED".

**Remark:** The LabClick-aw has NO semi-temperature stabilized measurement chamber. Make sure the ambient temperature is stable during the measurement or place the instrument inside a climatic chamber.

**LabClick-aw includes:**

- Dimensions: 140 x 225 x 80 mm
- Weight: 1.600 kg
- Measurement device LabClick-aw
- External universal power supply
- Connection cable 1.8 m
- Operating instructions
- Factory certificate of 6-point calibration, 11-33-58-75-84-90%

**Remark:** pre-filters, SAL-T and sample dishes are not included
**Accessories for LabTouch / Click-aw**

**External power supply with universal plug insert for all socket standards**

Power supply and battery charger (for LabSwift-aw with akku). The same power supply is ready for the LabTouch-aw and LabClick-aw.

**Attention:** Please use only the external power supply delivered by Novasina.

- **Power supply:**
  - Input: 90-264 VAC / 50-60Hz
  - Output: 5 VDC / 10W
  - Plug: Stereo plug (instrument side)
  - Diameter: 4 mm
  - Weight: 130 g
  - Cable length: approx. 1.5 m

**PC software NovaLog MC**

This optional Windows software allows the analysis and graphical display of the measurement data.

- **Software suitable for:**
  - Windows 98/2000/XP/Vista and Windows 7

**Sample dishes ePW**

Box with 100 sample cups.

These cups are for all Novasina aw instruments. They are disposable, intended for a single use.

**SAL-T salt tablets**

Standards based on saturated salt solutions in plastic tablets with humidity-permeable membranes. Each salt is delivered in an airtight can. SAL-T are available with following humidity values (at 25°C):

- **Humidity values in the temperature range 15° .... 30°C:**
  - 4.3 ..... 3.0% rh
  - 6.9 ..... 6.2% rh
  - 11.3 ..... 11.3% rh
  - 23.4 ..... 21.6% rh
  - 33.3 ..... 32.4% rh
  - 43.2 ..... 43.2% rh
  - 55.9 ..... 51.4% rh
  - 60.7 ..... 56.0% rh
  - 75.6 ..... 75.1% rh
  - 85.9 ..... 83.6% rh
  - 90.9 ..... 89.9% rh
  - 97.9 ..... 97.0% rh

The precision corresponds to eg. the Greenspan Report 1977 typically +/- 0.3 % rh

- **Weight:**
  - 50 g each

**Salt tablets SAL-T/C certified with European certificate**

Humidity standards based on saturated salt solutions in plastic tablets with humidity-permeable membranes. Each salt is delivered in an airtight can. SAL-T are available with the following humidity values (at 25°C):

- **Humidity values in the temperature range 15° .... 30°C:**
  - 6.4 ..... 52.9 %
  - 11.3 ..... 57.6 %
  - 22.5 ..... 75.3 %
  - 32.8 ..... 90.1 %
  - 43.2 ..... 97.3 %

Important: please consult the operation manual of your instrument to see which points can be calibrated. Other SAL-T can be used for verification.

- **Internationally accredited laboratory:**
  - All Novasina humidity standards are also available with an internationally recognised certificate from an accredited European laboratory (UKAS England)
  - Weight: 50g each
Set of 5 SAL-T salt tablets
Humidity standards based on saturated salt solutions in plastic tablets with humidity-permeable membranes. Each salt is delivered in an airtight can. The set consists of a case containing one each of the following values (at 25°C):

- 11.3 %
- 32.8 %
- 57.6 %
- 75.3 %
- 84.3 %

Case with 5 salt tablets
SAL-T for 11 ... 90%rh.
Humidity values in the temperature range 15°C ... 30°C:
- 11.3 ..... 11.3% rh
- 33.3 ..... 32.4% rh
- 60.7 ..... 56.0% rh
- 75.6 ..... 75.1% rh
- 85.9 ..... 83.6% rh

The precision corresponds to the Greenspan Report 1977 typically +/- 0.3 % rh

Weight : 670 g

Certification
of an aw measurement instrument in an accredited European laboratory

A UKAS-laboratory will certify the instrument at two or more humidity values and at several different temperatures if required.

Accredited lab:

Certified instruments can be also supplied.

Cell protection filters
A number of filters are available to protect the measurement cell from abrasion or corrosive volatiles.

111 1001 -> eVC-21 (10 pcs)
111 1003 -> eVC-26 (10 pcs)
111 0995 -> eVALC (2 pcs)

Cell protection filters:

Dimension : 36 x 3mm
Weight : 30 g each filter

Cell protection filter REDOX
Special protection filter against volatiles such as aromatic substances, ethanol, glycol etc. which can be present in a sample.

Important: this filter is subject to saturation, therefore it must be checked and replaced regularly.

111 7212 -> Redox (1 pc)

Cell protection filters:

Dimension : 36 x 3mm
Weight : 60 g

Spare parts for LabTouch-aw

Spare parts to measurement head LabTouch/Click-aw
1 Gasket to LabSwift/Touch/Chamber-aw
Recommendation: Seal ring should be replaced and lubricated regularly.
2 Pre-filter white (only dustfilter), 5 pcs
3 Tension ring for filter fixation

Remark: these spare parts are the same as used for LabStart-aw and LabSwift-aw

1 Gasket : 1
2 Pre-filter white : 2
3 Tension ring : 3

Spare parts chamber:

- Gasket
- Pre-filter white
- Tension ring

Weight : 1 : 10 g
2 : 10 g
3 : 5 g
SD card
SD-card for measurement data and protocol storage. The data can be analysed by spreadsheet programs.

Consisting of:
- SD memory card
- Blister

Memory: 2 GB
Weight: 6g

CM-2 measurement cell
Replaceable, calibrated measurement system with calibration point memory on the basis of the unique Novasina „Novalyte” technology. The inbuilt active heating element avoids condensation on the humidity sensing element.

Attention: do not touch the top of the measurement cell. Neither by hand nor with any other object!

Measurement system CM-2:
- Meas. range: 0.03…1.00aw
- Storage temp.: 0…50°C
- Storage humidity: 10….80% RH

Fully calibrated at 9 calibration points
Weight: approx. 2 g

Upgrade kit for LabTouch-aw
Firmware upgrade „BASIC“-„ADVANCED“
Enables an upgrade from LabTouch-aw "BASIC" to "ADVANCED".

Additional functions:
- Activation of RS-232 and USB Interface for NovaLog MC connections
- Multi-Channel functions for connection of max. 2 LabClick
- including visualization Software NovaLog MC

Upgrade for LabTouch-aw:
- Firmware upgrade for additional functions:
  - BASIC to ADVANCED level
- NovaLog MC visualisation and analysis software
- USB / RS-232 interface cable 1.8m.
LabMaster-aw
A synonym for high-precision, flexibility, versatility and measurement speed

Well-proven laboratory instrument for reproducible, precise aw measurements under accurately controlled temperature conditions for all types of foodstuffs, cosmetics as well as dry pharmaceutical materials. The LabMASTER-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 an accuracy of 0.2K.

The device and its sensor are very robust and have an excellent long-term stability. The Novasina electrolytic resistive 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 LC display gives a clear overview. The menu software is simple and intuitive.

For a connection to a printer or a PC, a RS-232 or USB interface is build in the device. The visualisation PC-Software NOVALOG MC for Win9x/2000/NT/XP/Vista/Windows 7 is included in the delivery (except for the “BASIC” version). A recorder can be connected to the 0…10 volt analogue output.

Measurement instrument LabMaster-aw:

- Measuring range aw : 0.03 ... 1.00aw
- Measurement chamber temperature : selectable 0 ... 50°C +/- 0.2K
- Sensor type : electrolytic resistive measurement cell CM-2
- Accuracy : +/- 0.003aw / +/- 0.2K at 25°C when the system is calibrated at 7 points
- Communication : RS-232 interface, USB, PC

Software “Novalog MC”

Water activity instrument LabMASTER-aw:

- 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-2
- Range : 0.03...1.00aw in the range of 0...50°C.
- Accuracy : +/- 0.003aw at 25°C
- Resolution : 0.001aw / 0.1°C

Temperature sensor:
- Precise NTC resistor
- Range : -20...80°C
- Resolution : 0.1 °C

Humidity standards
- Salt tablets SAL-T:
  Various re-usable salt solutions are available for instrument verification and calibration. For more information please consult the chapter accessories

Typical samples:
- All kind of bakery products
- Cheese, diary products
- Chocolate
- Chemical substances
- Fresh meat and sausages
- Fruit concentrate (solid & liquid)
- Pet food
- Pharmaceutical products, cosmetics
Measurement instrument LabMASTER-aw

LabMASTER-aw “BASIC”
Robust laboratory precision measurement instrument with temperature controlled measurement chamber. With integrated pre-conditioning chamber.

Further functions:
- Stability parameter, time & date displayed on LCD screen
- Memory for the last 10 aW stable value for each data file
- Stability val time can be defined directly before measurement
- Setting of measurement alarm limits
- Calibration reminder function

BASIC version = single-measurement & single-USER

Attention: no power cable included. Please order it separately.

Water activity instrument:
Ground surface: 26 x 44 cm (WxL)
Weight : 9.800 kgs
Include:
- Sensor CM-2
- 6 humidity standards SAL-T: 11, 33, 58, 75, 84 and 97% rh (incl. factory calibration certificate)
- 50 sample dishes ePW
- Operating instructions

LabMASTER-aw “STANDARD”
Robust laboratory precision measurement instrument with temperature controlled measurement chamber. With integrated pre-conditioning chamber.

Further functions:
- Stability parameter, time & date displayed on LCD screen
- Memory for the last 10 aW stable value for each data file
- Stability val time can be defined directly before measurement
- Setting of measurement alarm limits
- Calibration reminder function
- Graphic display of aW measurement curve on LCD screen

STANDARD version = single-measurement & multi-USER

Attention: no power cable included. Please order it separately.

Water activity instrument:
Ground surface: 26 x 44 cm (WxL)
Weight : 9.800 kgs
Include:
- Sensor CM-2
- 6 humidity standards SAL-T: 11, 33, 58, 75, 84 and 97% rh (incl. factory calibration certificate)
- 50 sample dishes ePW
- RS232 interface, PC cable 1.8m
- D-Sub 9M/9F, USB port & cable
- NovalogMC PC visual. software for Win9x/2000/NT/XP/Vista/Windows 7
- Operating instructions

Accessories for LabMASTER-aw

Mains power cables
For connecting a LabMASTER-aw

Configured with the standard instrument connector at one end and the locally required power plug at the other.

Power cable:
Cable length : 1.5 m
For local power systems with appropriate plugs.
Weight : 260 g each

PC software NovaLog MC
This optional Windows software allows the analysis and graphical display of the data stored on the SD-card.
Software suitable for:
Windows 98/2000/XP/Vista and Windows 7

Consisting of:
CD with NovaLog MC software for Windows system
Weight : 180g
Multi-channel system with LabPartner-aw

This professional laboratory instrument system allows 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 LabMASTER-aw “ADVANCED” runs from 1 to 9 LabPARTNER-aw units.

The temperature of each chamber can be set in the range from 0°C to 50°C.

The “ADVANCED” instrument version completes ideally the LabMASTER-aw “BASIC” and “STANDARD”. It allows an extension at any time and offer an outstanding cost efficiency.

Measuring range aw: 0.03 ... 1.00 aw
Measurement chamber temperature: selectable 0 ... 50°C +/- 0.2K
Sensor type: electrolyte resistive measurement cell CM-2
Accuracy: +/- 0.003aw / +/- 0.2K at 25°C when the system is calibrated at 7 points
Repeatability: +/- 0.002awl
Communication per channel: RS-232 or USB interface.

For single channel monitoring PC-Software “Novalog MC” for single channel monitoring

Multi-Channel System (LabPartner-aw)

Highest flexibility and cost efficiency at any time

The LabMASTER-aw series is a new 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. This makes the system very flexible and versatile with the possibility of extension at any time.

LabMASTER/LabPARTNER-aw sensors are very robust, excel in long-term stability characteristics and have been specifically developed for continuous operation. The unique properties of the electrolytic resistive 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 LC-Display. Each channel can be configured individually and optimised using a menu-driven procedure. The LabMASTER-aw “ADVANCED” includes a RS-232 or USB interface for the communication with a PC. The single channel software Novalog MC is included in the delivery of this device.

Multi-Channel System:

LabMASTER-aw instrument:
Mains supply: 90V...260V, 50/60Hz, wide range power supply
LabPartner is powered by the LabMaster

LabMASTER / LabPARTNER-aw:
Surface area: width 26, depth 44 cm
Weight: 9.8 kg

Humidity sensor:
Electrolyte measurement cell CM-2
Range: 0.03...1.00aw in the range of 0...50°C
Accuracy: +/- 0.003aw at 25°C
Resolution: 0.001aw / 0.1°C

Temperature sensor:
Precise NTC resistor
Range: -20...80°C
Resolution: 0.1°C

Humidity standards
Salt tablets SAL-T:
Various re-usable salt solutions are available for instrument verification and calibration. For more information please consult the chapter accessories.

Typical samples:
- All kind of bakery products
- Cheese, diary products
- Chocolate
- Chemical substances
- Fresh meat and sausages
- Fruit concentrate (solid & liquid)
- Pet food
- Pharmaceutical products, cosmetics
Multi-Channel System

**LabMASTER-aw “ADVANCED”**

Robust laboratory precision measurement instrument with temperature controlled measurement chamber. With integrated pre-conditioning chamber.

Further functions:
- Stability parameter, time & date displayed on LCD screen
- Memory for the last 10 aW stable value for each data file
- Stability val time can be defined directly before measurement
- Setting of measurement alarm limits
- Calibration reminder function
- Graphic display of aW measurement curve on LCD screen

**Advanced version:** multi-measurement & multi-user

**Attention:** no power cable included. Please order it separately.

**Water activity instrument:**
- Ground surface: 26 x 44 cm (WxL)
- Weight: 9.800 kgs

Include:
- Sensor CM-2
- 6 humidity standards SAL-T: 11, 33, 58, 75, 84 and 97% rh (incl. factory calibration certificate)
- 50 sample dishes ePW
- RS232 interface, PC cable 1.8m
- D-Sub 9M/9F, USB port & cable
- NovalogMC PC visual software for Win9x/2000/NT/XP/Vista/Windows 7
- Operating instructions

**LabPARTNER-aw**

A robust laboratory instrument with highly-sensitive humidity and temperature sensors, temperature controlled measurement chamber. With integrated pre-conditioning chamber.

**A power supply cable and a communication cable are provided to connect this instrument to the LabMASTER-aw or to another LabPARTNER-aw.**

**Water activity instrument:**
- Ground surface: 26 x 44 cm (WxL)
- Weight: 9.800 kgs

Include:
- Sensor CM-2
- 6 humidity standards SAL-T: 11, 33, 58, 75, 84 and 97% rh (incl. factory calibration certificate)
- 50 sample dishes ePW
- Operating instructions

**Accessories for LabMASTER-aw & LabPARTNER-aw**

**Mains power cables**

*For connecting a LabMASTER-aw*

Configured with the standard instrument connector at one end and the locally required power plug at the other.

- Power cable CH: 1
- EU/Schuko: 2
- Japan and USA: 3

**Power cable:**
- Cable length: 1.5 m
- For local power systems with appropriate plugs.
- Weight: 260 g each

**SI, sorption isotherm set**

*For the LabMASTER-aw and LabPARTNER-aw*

This accessory, together with the Novasina humidity standards SAL-T, makes it possible to easily determine several points of a sorption isotherm. Incl. a plastic case for transportation.

In addition, a precision balance and an oven are required.
Cell protection filters

for all LabMASTER-aw and LabPARTNER-aw.

A number of filters is available to protect the measurement cell from aggressive volatiles or abrasion.

-> Please consult the Novasina filter data sheet for more details about the sample substances and the correct selection of the most suitable filter for your application.

Filters for cell protection against volatiles:

- eVC-21 (10 pieces)
- eVC-26 (10 pieces)
- Redox (1 piece)
- eVALC (2 pieces)
- eVMT-2 (5 pieces)

Weight: 30 g each filter

Sample dishes ePW

For all LabMASTER-aw and LabPARTNER-aw

Box with 100 sample cups.

These cups are for all Novasina aw instruments. They are disposable, intended for a single use.

A box contains:

- 100 sample cups ePW
- Material: Polypropylene
- Dimensions: 40mm diameter x 12mm depth

SAL-T salt tablets

Standards based on saturated salt solutions in plastic tablets with humidity-permeable membranes. Each salt is delivered in an airtight can. SAL-T are available with following humidity values (at 25°C):

- 3.4 %  52.9 %
- 6.4 %  57.6 %
- 11.3 %  75.3 %
- 22.5 %  84.3 %
- 32.8 %  90.1 %
- 43.2 %  97.3 %

Important: please consult the operation manual of your instrument to see which points can be calibrated. Other SAL-T can be used for verification.

Humidity values in the temperature range 15° ... 30°C:

- 4.3 ... 3.0% rh
- 6.9 ... 6.2% rh
- 11.3 ... 11.3% rh
- 23.4 ... 21.6% rh
- 33.3 ... 32.4% rh
- 43.2 ... 43.2% rh
- 55.9 ... 51.4% rh
- 60.7 ... 56.0% rh
- 75.6 ... 75.1% rh
- 85.9 ... 83.6% rh
- 90.9 ... 89.9% rh
- 97.9 ... 97.0% rh

The precision corresponds to eg. the Greenspan Report 1977 typically +/- 0.3 % rh

Weight: 50 g each

Set of 6 SAL-T salt tablets

Humidity standards based on saturated salt solutions in plastic tablets with humidity-permeable membranes. Each salt is delivered in an airtight can. The set consists of a case containing one each of the following values (at 25°C):

- 11.3 %
- 32.8 %
- 57.6 %
- 75.3 %
- 84.3 %
- 97.0 %

Case with 6 salt tablets

SAL-T for 11 ... 97%rh.

Humidity values in the temperature range 15° ... 30°C:

- 11.3 ... 11.3% rh
- 33.3 ... 32.4% rh
- 60.7 ... 56.0% rh
- 75.6 ... 75.1% rh
- 85.9 ... 83.6% rh
- 97.9 ... 97.0% rh

The precision corresponds to the Greenspan Report 1977 typically +/- 0.3 % rh

Weight: 710 g case
Salt tablets SAL-T/C certified with European certificate
Humidity standards based on saturated salt solutions in plastic tablets with humidity-permeable membranes. Each salt is delivered in an airtight can. SAL-T are available with the following humidity values (at 25°C):

6.4 %  52.9 %  90.1 %
11.3 %  57.6 %  84.3 %
32.8 %  75.3 %  97.3 %

Important: please consult the operation manual of your instrument to see which points can be calibrated. Other SAL-T can be used for verification.

Certification of an aw measurement instrument in an accredited European laboratory
A UKAS-laboratory will certify the instrument at two or more humidity values and at several different temperatures if required.

Spare parts for LabMASTER-aw & LabPARTNER-aw

CM-2 measurement cell
Replaceable, calibrated measurement system with calibration point memory on the basis of the unique Novasina „Novalyte“ technology. The inbuilt active heating element avoids condensation on the humidity sensing element.

Attention: do not touch the top of the measurement cell. Neither by hand nor with any other object!

Replacement parts for measuring chamber
1 O-ring seal for the measurement chamber. Recommendation: exchange the O-ring periodically.
2 Metal mesh filter.
3 Tension ring for clamping the filter.

Internally accredited laboratory:
All Novasina humidity standards are also available with an internationally recognised certificate from an accredited European laboratory (UKAS England)
Weight : 50g each

Accredited lab:
Certified instruments can also be supplied.

Chamber replacement parts for LabMaster / Partner-aw:
- O-ring seal Weight: 1 g
- Metal mesh filter Weight: 30 g
- Tension ring Weight: 10 g

Prices see on the pricelist

Measurement system CM-2:
Meas. range : 0.03...1.00 aw
Storage temp. : 0 ...50°C
Storage humidity : 10...80% RH
Fully calibrated at 9 calibration points
Weight : approx. 2 g

Replaceable, calibrated measurement system with calibration point memory on the basis of the unique Novasina „Novalyte“ technology. The inbuilt active heating element avoids condensation on the humidity sensing element.

Attention: do not touch the top of the measurement cell. Neither by hand nor with any other object!
# Upgrade Kits for LabMaster-aw

## Upgrade License 1
**“BASIC-STANDARD”**
- Software code for activating the additional software function from BASIC to STANDARD.
- Single to multi user management system
- PC-Tool NovaLog MC Software

### License 1

**111 9975** License

- to upgrade a LabMASTER-aw basic to a LabMASTER-aw standard.
- with functionality extension code, PC software NovalogMC, cable 1.8m D-Sub 9M/9F, and USB cable 1.8m.

## Upgrade License 2
**“STANDARD-ADVANCED”**
- Software code for activating the additional software function from STANDARD to ADVANCED.
- Single chamber to multi chamber system with LabPartner-aw.

### License 2

**111 9976** License

- to upgrade a LabMASTER-aw standard to a LabMASTER-aw advanced.
- with functionality extension code to control up to 9 additional LabPARTNER-aw units.

## Upgrade License 3
**“BASIC-ADVANCED”**
- Software code for activating the additional software function from BASIC to ADVANCED.
- Single to multi chamber system.

### License 3

**112 0171** License

- Software code for activating the additional software function from BASIC to ADVANCED.
- Single to multi user management system
- PC-Tool NovaLog MC Software
- Single to multi chamber system with LabPartner-aw.

## Software Update for LabMaster-aw

### Update software package for LabMaster
- only “STANDARD” & “ADVANCED” models

Software package including update code for LabMaster-aw STANDARD & ADVANCED models. Applicable for instruments sold before the year 2010 with serial no.: 05….. to 09….. So the LabMaster-aw instrument can be updated to the newest level and the user can benefit from the following extended functions.

#### Additional functions:
- Stability parameter is displayed on instrument LCD screen flashing alternately
- Actual time and date is displayed on instrument LCD screen flashing alternately
- Memory of the last 10 aW stable values for each data file (provided that the data base is used actively)
- Stable value time can be set directly before performing the measurement (faster adaptation in case of sample change)
- Selectable upper and lower alarm limits for measurement
- Calibration reminder function
- Graphical display of aW measurement curve on LCD

### Update software package:
LabMaster-aw:

- Software package incl. update activation code for extended functions for STANDARD and ADVANCED models

### Update package

**260 0275** Update package
Is it really necessary to have different water activity meters?

Every sample has its own characteristics in terms of ingredients, texture, color and taste. These in-turn influence the free water and finally the water activity each in a different way. These factors, plus the temperature influence, define the measurement time and the accuracy of the tests. Stable measurement conditions are finally the key to a successful quality control!

Novasina offers three types of water activity meters, carefully developed and designed, offering the most suitable solution to customers’ samples and requirements:-

- **LabMaster-aw**: Top-of-the-range instrument with full temperature-controlled chamber. It can handle all types of samples from 0.03 to 1.00aw. Measurement accuracy +/- 0.003 aW.
- **LabTouch-aw**: Semi-temperature controlled measurement chamber, optimized for the measurement of aw values in the range of 0.06 to 0.97aw. Measurement accuracy +/- 0.005 aW.
- **LabSwift-aw**: portable aw-meter with no sample temperature control, thus environmental (lab) temperature is the measurement temperature. Suitable for low to medium aw-measurement in ranges of 0.11 to 0.90aw. Measurement accuracy +/- 0.01 aW.
- **LabStart-aw**: portable aw-meter with no sample temperature control, thus environmental (lab) temperature is the measurement temperature. Suitable for low to medium aw-measurement in ranges of 0.20 to 0.80 aw. Measurement accuracy +/- 0.03 aW.

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