



# AW LAB Set F



A professional laboratory instrument for precision measurements of relative equilibrium humidity or aw value in foodstuffs, pharmaceutical products and other materials. The laboratory temperature should be maintained at a constant value, since these properties are a function of temperature for many such products. This inexpensive instrument makes it possible to check the relative equilibrium humidity in a wide range of materials, as well as aw values in research, production, packing, foodstuff storage, as well as cosmetics, and the very dry products of the pharmaceutical industry. The aw value or relative equilibrium humidity can be displayed as required.

<b>Range</b>	:	<b>0.03 ... 1.00aw / 3 ... 100% rh</b> operating temperature range 0...50°C
<b>Sensor</b>	:	Resistive electrolyte measurement cell, sensor HSM-7
<b>Precision</b>	:	<b>+/- 0.003aw / 0.3% rh, 0.3°C</b> when fully calibrated
<b>Repeatability</b>	:	+/- 0.002aw/ 0.2%rh
<b>Communication:</b>		RS232 interface, PC-Software, Analog output 0-10V



## AW LAB Set F

*Precise, fast, flexible*

A well-proven laboratory precision instrument for reproducible, precise aw measurements for all types of foodstuffs, cosmetics, dry pharmaceutical substances, as well as a wide variety of other products such as tobacco, building materials, plastics, textiles.

The instrument and its sensor are robust and have excellent long-term stability. The Novasina electrolyte sensor delivers essentially hysteresis-free measurements.

The large, clear illuminated LC display is very easy to read.

An RS 232 interface is available for connecting a printer or PC. PC-Software for Win9x/2000/NT/XP is provided with the instrument. A recorder can be connected to the 0 to 10 volt analog output.

Examples of aw measurements:

- All forms of pastry and baked goods
- Potato chips, tea leaves
- Cheese, meat
- Fruit concentrates
- Dried foodstuffs, e.g. mushrooms
- Cosmetics
- Medications
- Technical products
- Textiles

**Note:** *For many products, a constant, sometimes legally prescribed, temperature is required. The most appropriate instrument for such applications is the **LabMaster-aw**.*

### **Instrument AW LAB Set F:**

Surface area	: AW LAB 12 x 25 cm Measurement box Dia. 8cm x 11cm
Weight	: 2 kg
Power	: 115V, oder 230V, 50/60Hz

#### **Humidity sensor:**

Electrolyte measurement cell	
Range	: 0.03...1.00aw operating temperature range 0...50°C
Repeatability	: +/- 0.002aw
Precision	: +/- 0.003aw when fully calibrated
Resolution	: 0.001aw

#### **Temperature sensor:**

Precise NTC-resistance	
Range	: -20...80°C
Repeatability	: +/- 0.1° C
Precision	: +/- 0.3° C
Resolution	: 0.1°C

#### **Humidity standards**

##### **Salt tablets SAL-SC:**

Saturated pure salt solutions based on national standards are recommended:

see catalogue accessories



## Laboratory Instrument AW LAB Set F



[111 4577](#) AW LAB Set F 230V

[111 4578](#) AW LAB Set F 115V

### AW LAB Set F

A robust laboratory instrument for precisely determining the water activity in large volume samples. It incorporates highly sensitive humidity and temperature sensors, a 0...10 volt scaleable analog output, and an RS232 interface for connection of a PC or printer. It is delivered with a CD including the special software *Novalog 32* for Win9X/2000/NT/XP.

The instrument is ready to use as delivered, having been calibrated at 5 points in the factory.

**No power supply cable is provided. The appropriate cable (for Switzerland, Europe, USA) should be ordered separately.**

#### **Instrument AW LAB Set F:**

- With sensor HSM-7, cable length : 2m
- Humidity standards SC: 3 Sensor Checks in a case 11, 33, 75% rh
- Adapter ch
- PC-Software Novalog32 for Win9x/2000/NT/XP
- User manual
- Factory certificate of the 5-point calibration at 11-33-53-75-90%

Weight: 1.800kgs

## Laboratory Instrument AW LAB Set H



[111 4312](#) AW LAB Set H 230V

[111 4313](#) AW LAB Set H 115V

### AW LAB Set H

A robust laboratory instrument for precisely determining the water activity in product samples. It incorporates highly sensitive humidity and temperature sensors, a 0...10 volt scaleable analog output, and an RS232 interface for connection of a PC or printer. It is delivered with a CD including the special software *Novalog32* for Win9X/2000/NT/XP. The instrument is ready to use as delivered, having been calibrated at 5 points in the factory.

**No power supply cable is provided. The appropriate cable (for Switzerland, Europe, USA) should be ordered separately.**

#### **Instrument AW LAB Set H:**

- With sensor enBSK-7, cable length: 2m
- SAL-T humidity standards: 3 SAL-T tablets in a case, 11, 33, 75% rh
- PC-Software Novalog32 for Win9x/2000/NT/XP
- User manual
- Factory certificate of the 5-point calibration at 11-33-53-75-90%

Weight: 1.900kgs



## Accessories for AW LAB Set F / H



- 110 8568** Power cable CH : 1  
**110 8304** EU/Schuko : 2  
**111 1748** USA/Japan : 3

### International power supply cables

*For connecting an AW LAB*

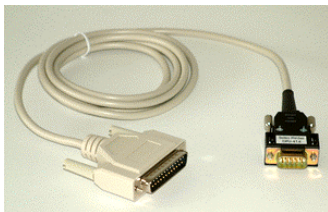
Configured with the standard instrument connector at one end and the locally required power plug at the other.

**Please order with the country code and plug type**

#### Power cable:

Cable length : 1.5 m  
 Weight : 260g

For local power systems with appropriate plugs



**111 7473** Adapter cable

### Adapter cable "Seiko "

*for Seiko DPU414 printer*

For directly connecting a Seiko DPU 414 thermal printer. This makes it possible to control the printer using the printer parameters defined in the LAB menu.

Attention: The printer must be obtained locally

#### Adapter cable Seiko:

Type : Seiko  
 Length : 1.8m  
 Weight : 150g  
 Connector : D-Sub 25M/9M



**111 0958** Epson Adapter

### Adapter "Epson" for Epson printer

For connecting an Epson or compatible 9-needle printer via a 1:1 PC standard cable. This makes it possible to control the printer using the printer parameters defined in the LAB menu.

Attention: The printer must be obtained locally

#### Epson Adapter:

Type : Epson  
 Connector : D-Sub 25M/25M  
 Weight : 40g



--- Example Seiko-Printer

### Printer

A printer must be purchased locally.

**> Novasina does not supply printers <**

#### Printer :

Portable Seiko or Epson style printer can easily be connected to an AW LAB via appropriate cable/adapter box.



**111 8426** Thermal paper Seiko

### Thermal paper replacement rolls

for **Seiko DPU 411, 414** printers.

**Attention:** This paper must be stored in a dark and dry place. This is thermal transfer paper only intended for Seiko printers.

**Printer type:** Seiko DPU 411, 414

**Note:** Set of 5 rolls, each 25m long.

#### Thermal paper replacement:

Set of 5 rolls, each 25 m long.  
 Thermal paper for Seiko printer  
 Models DPU 411 and 414

Paper width 11cm  
 Weight: 850g each Set  
 Set of 5 rolls, each 25m long



[Prices see on the pricelist](#)

### 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.

#### Internationally accredited laboratory



Certified instruments can be supplied



## Accessories for AW LAB Set F



with CK-7 measurement cell  
**252 4709** HSM-7 – 2m cable

### HSM-7 sensor incl. sample box

*Complete to the sample box large*

Modern and light polycarbonate plastic sensor with a shaft diameter of 13mm. Inclusive exchangeable resistive electrolyte measuring cell CK-7. Aluminium protective cap with a shaft diameter of 13mm and braided filter of rust-resistant steel. With a 350 ml one way plastic box for bigger sample volumes.

**Accessories:** 1 sample box

-> For SC calibration kit please use the Sensor Check adapter Nr. 1107345! (tightness)

#### HSM-7 Sensor incl. Box:

Dimensions Sensor: 160 x 13 mm  
Dimensions Box 112 x 76 mm  
Weight : approx. 200g  
Measurement : AW and Temp  
Connector : 12 –pin plug for the aw-Lab Set F  
Power : passive  
Outputs : Novasina specific  
Protection :braided filter without membrane



**252 4711** HSM-127 –2m cable

### HSM-127 sensor BOX

A small, and light water activity sensor in a polycarbonate plastic housing with 100mm tube length for large sample box. Shaft diameter of 13 mm. Without CK-7 measurement cell and filter. Only for aw-Lab Set F available.

-> Please use the Sensor Check Adapter Nr. 1107345 for SC calibration to ensure the correct sealing.

#### HSM Sensor including plug:

Dimensions : 160 x 13 mm  
Shaft length : 100 mm  
Weight : 100 g  
Measurement : AW and Temp  
Connector : 12 –pin plug for the aw-Lab Set F  
Power : passive  
Outputs : Novasina specific



**111 5343** Box Mounting Kit

### Box mounting kit

Duct mounting flange for HSM sensors. For easy, sealed mounting through probe boxes. The flange can be fixed by 3 screws The sensor can be removed at any time for recalibration.

-> Clamping range: 10 .... 14 mm

#### Duct mounting kit for HS:

Flange dimensions : 60 x 20 mm  
Weight : 30 g  
Clamping range : 10...14 mm

Available for larger sample box installation.



**111 6330** Active charcoal filter

### Filter protective cap with active charcoal

*for HSM sensor*

Aluminium filter protective cap for the HSM sensor. Incorporates a stainless steel metal web and an active charcoal insert. Provides optimal protection of the measurement cell from corrosive gases and industrial pollutants.

-> The filter has a 12 um mesh size

#### Active charcoal filter for HSM:

Filter dimensions : 28 x 13 mm  
Weight : 15 g  
Effect : mechanical protection  
chemical protection  
Nitrous oxide, oil-smoke, fine dust  
amine, ethylene Particle size over : 12 um



**111 6329** Metal webfilter

### Metal-web filter for the HSM sensor

The standard filter protective cap for the HSM sensor. Made of aluminium woven material for highly demanding industrial applications, Provides good protection against dirt such as dust or larger particles in an industrial environment, but no protection against water spray.

-> The filter has a mesh size of 25 um.

-> The HSM is delivered with this filter

#### Metal web filter for the HSM:

Filter dimensions: 25 x 13 mm  
Weight : 10g

Effectiveness : Mechanical protection  
no chemical protection

Particle size above: 25 um

Supplied with the HSM sensor



[110 7345](#) Adapter ch

**Sensor check adapter ch** for any 13mm sensor

This adapter is needed for calibration an instrument. It ensures an airtight connection of a Sensor Check to the sensor tube of the top of the instrument. It reduces the diameter of 20 mm down to 13 mm and ensures an airtight seal.

-> The adaptor should first be attached to the sensor Both seals should be carefully checked, leaks will bias the calibration.

**Adapter CH for sensor checks „SC“ auf HSM Sensoren:**

Dimensions : 30 x 13 mm

Weight : 5 g

Material : Thermo plastic with O- ring



[252 4710](#) sample Box large

**Sample box large HSM-3/7** for Set-F

New large sample Box for **HSM-7 box sensor**.

These are disposals, intended for a single use with Novasina aw-Lab or ms-1 instrument with HSM sensor.

**A large sample box contains:**

1 new sample box

Material : Polypropylene

Dimensions: 112 x diam. 76mm

Weight : 50 g



- [111 0885](#) -> SAL-SC 11
- [111 0855](#) -> SAL-SC 33
- [111 0857](#) -> SAL-SC 53
- [111 0859](#) -> SAL-SC 75
- [111 0896](#) -> SAL-SC 90

**Sensor-Checks SAL-SC** (rh standards)

Humidity standards based on saturated salt solutions in plastic cylinders with moisture permeable membranes. Each salt is delivered in a well-sealed box. SAL-SC are obtainable for the following values (at 25°C):

- 11.3 % rh colour white
- 32.8 % rh colour blue
- 52.9 % rh colour green (DG see general terms of sales)
- 75.3 % rh colour purple
- 90.1 % rh colour white (DG see general terms of sales)

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

- 11.3 ..... 11.3% rh
- 33.3 ..... 32.4% rh
- 55.9 ..... 51.4% rh
- 75.6 ..... 75.1% rh
- 90.9 ..... 89.9% rh

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

Weight : 90 g



- [111 1044](#) -> SAL-SC 11 C
- [111 1037](#) -> SAL-SC 33 C
- [111 1040](#) -> SAL-SC 53 C
- [111 1035](#) -> SAL-SC 75 C
- [111 1032](#) -> SAL-SC 90 C

**Sensor-Checks SAL-SC EU with European certificate**

Humidity standards based on saturated salt solutions in plastic cylinders with moisture permeable membranes. Each salt is delivered in a well-sealed box. SAL-SC are obtainable for the following values (at 25°C):

- 11.3 % rh colour white
- 32.8 % rh colour blue
- 52.9 % rh colour green (DG see general terms of sales)
- 75.3 % rh colour purple
- 90.1 % rh colour white (DG see general terms of sales)

**Internationally accredited laboratory**



All Novasina humidity standards can also be supplied with an internationally recognised certificate from an accredited European laboratory (UKAS England).

Weight : 90 g



[111 7847](#) Sensor-check set

**Set with 5 Sensor-Checks SAL-SC**

Humidity standards based on saturated salt solutions in plastic cylinders with moisture permeable membranes. Each salt is delivered in a well-sealed box. SAL-SC are obtainable for the following values (at 25°C):

- 11.3 % rh colour white
- 32.8 % rh colour blue
- 52.9 % rh colour green (DG see general terms of sales)
- 75.3 % rh colour purple
- 90.1 % rh colour white (DG see general terms of sales)

**Case with all 5 Sensor Checks from 11 to 90%rh:**

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

- 11.3 ..... 11.3% rh
- 33.3 ..... 32.4% rh
- 55.9 ..... 51.4% rh
- 75.6 ..... 75.1% rh
- 90.9 ..... 89.9% rh

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

Weight : 900 g



**Accessories for AW LAB Set H**



**111 0601** ePW sample dishes

**ePW sample dishes**

*For all enBSK measurement chambers*

Box with 100 sample dishes for the sample sensor enBSK-7.

These are disposal, intended for a single use with any Novasina aw instrument with head BSK.

**A box contains:**

100 sample dishes ePW

Material : Polypropylene

Dimensions: 40mm dia. x 12mm

Weight : 440 g



**111 0790** SI Set BS

**SI sorption isotherm set for the BSK Sensor**

This accessory, together with the Novasina humidity standards SAL-T, makes it possible to easily determine several points of a sorption isotherm. (A precision balance and an oven are also required.)

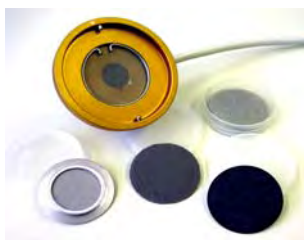
**Prerequisite:** the laboratory room temperature must be kept absolutely constant.

**SI – Set BS complete with:**

- 1 SI-ring BS
- 1 substance basket
- 1 weighing glass
- 1 pair of tongs

*For recording of a sorption isotherm, the AW SPRINT or AW CENTER with temperature control should be used.*

Weight: 280 g



**111 1001** -> eVC-21

**111 1003** -> eVC-26

**111 7212** -> Redox

**111 0995** -> eVALC

**111 0997** -> eVMT-2

**111 0999** -> eVMS-2

**Cell protection filters**

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

-> Please consult the appropriate datasheets

**Filters for enBSK head:**

- eVC-21 (10 pcs.)
- eVC-26 (10 pcs.)
- Redox (1 piece)
- eVALC (2 pcs.)
- eVMT-2 (5 pcs.)
- eVMS-2 (5 pcs.)

Weight: 30 g



**110 6515** Tweezers for ePW

**Tweezers**

*for ePW*

To ease the removal of the sample dish ePW from the sample plate PP.

**Tweezers:**

Material : stainless steel  
Weight : 20 g



**111 1218** Tweezers for CK5-7

**Special tweezers**

To simplify the exchange of a CK measuring cell in an enBSK measuring head.

**Special-tweezers:**

Material : stainless steel  
For exchanging the humidity cell in an enBSK head  
Weight: 20 g



- [111 6453](#) -> SAL-T 6% rh
- [111 0930](#) -> SAL-T 11% rh
- [111 0932](#) -> SAL-T 33% rh
- [111 0934](#) -> SAL-T 53% rh
- [111 0936](#) -> SAL-T 75% rh
- [111 0938](#) -> SAL-T 90% rh
- [111 0940](#) -> SAL-T 98% rh

### 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. SAL-T are available with the following humidity values (at 25°C):

- 6,4 % colour white
- 11,3 % colour white
- 32.8 % colour blue
- 52.9 % colour green (DG see general terms of sales)
- 75.3 % colour purple
- 90.1 % colour white (DG see general terms of sales)
- 98.0 % colour orange (DG see general terms of sales)

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

- 6.9 ..... 6.2% rh
- 11.3 ..... 11.3% rh
- 33.3 ..... 32.4% rh
- 55.9 ..... 51.4% rh
- 75.6 ..... 75.1% rh
- 90.9 ..... 89.9% rh
- 98.5.....98.0% rh

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

Weight: 50 g a piece



- [111 7000](#) -> SAL-T/C 6% rh
- [111 1056](#) -> SAL-T/C 11% rh
- [111 1057](#) -> SAL-T/C 33% rh
- [111 1060](#) -> SAL-T/C 53% rh
- [111 1063](#) -> SAL-T/C 75% rh
- [111 1065](#) -> SAL-T/C 90% rh
- [111 1068](#) -> SAL-T/C 98% rh

### SAL-T/C salt tablets EU 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 % colour white
- 11,3 % colour white
- 32.8 % colour blue
- 52.9 % colour green (DG see general terms of sales)
- 75.3 % colour purple
- 90.1 % colour white (DG see general terms of sales)
- 98.0 % colour orange (DG see general terms of sales)

#### Internationally accredited laboratory



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

Weight: 50 g a piece



[111 0695](#) Set of 5 SAL-T

### 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 % colour white
- 32.8 % colour blue
- 52.9 % colour green (DG see general terms of sales)
- 75.3 % colour violet
- 90.1 % colour white (DG see general terms of sales)

#### Case with 5 salt tablets

SAL-T for 11 ... 90%rh.

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

- 11.3 ..... 11.3% rh
- 33.3 ..... 32.4% rh
- 55.9 ..... 51.4% rh
- 75.6 ..... 75.1% rh
- 90.9 ..... 89.9% rh

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

Weight: 670 g



[111 0435](#) Set of 6 SAL-T

### 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 % colour white
- 32.8 % colour blue
- 52.9 % colour green (DG see general terms of sales)
- 75.3 % colour purple
- 90.1 % colour white (DG see general terms of sales)
- 98.0 % colour orange (DG see general terms of sales)

#### Case with 6 salt tablets

SAL-T for 11 ... 98%rh.

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

- 11.3 ..... 11.3% rh
- 33.3 ..... 32.4% rh
- 55.9 ..... 51.4% rh
- 75.6 ..... 75.1% rh
- 90.9 ..... 89.9% rh
- 98.5.....98.0% rh

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

Weight: 710 g



**Replacement parts for AW LAB Set F, H**



**111 8654** CK-7 measuring cell

**CK-7 measuring cell for Sets F & H**

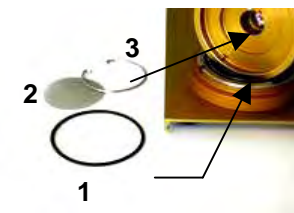
For sensors enCSK and enBSK

Humidity measurement cell without integrated temperature sensor, but with active saturation protection. The measurement cell can be exchanged by hand with the help of tweezers. The filter surface on the top of the cell should not be touched with the hand or hard objects.

**Attention:** The instrument requires recalibration when a cell is exchanged.

**Humidity cell CK-7:**

Range : 0.03aw...1.00aw  
corresp. to 3...100% rh  
operating temp. range: 0...50°C  
Temperature: cannot be measured  
Repeatability: +/- 0.3 % rh  
Accuracy : +/- 2.0 % rh  
( without calibration)  
Accuracy : +/- 0.003aw  
when instrument fully calibrated  
Weight: 1 g



**111 1373** O-Ring : 1  
**111 2934** Metal mesh filter: 2  
**111 0111** Tension ring : 3

**Replacement parts for "head BSK"**

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

**Replacement parts for enBSK:**

- O-ring seal Weight: 1 g
- Mesh filter Weight: 30 g
- Tension ring Weight: 10 g



**111 0774** Measurement head BSK

**BSK Measurement head**

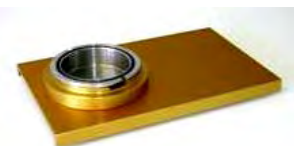
For the AW LAB Set H

- with 2.0m cable, 12-pin connector,
- **without** Humidity measurement cell CK-7
- **without** metal mesh filter.

**Measurement head BSK**

Sensor head consisting of:

- Aluminium head with bayonet fastening
  - for CK-7 Measurement cell
  - 2.0m cable for AW LAB
  - 12 pin connector with screw lock
- Weight: 240 g



**110 0770** Measurement plate PP

**Sample measuring plate PP**

for enBSK-7

The product sample is placed in a sample dish ePW (111 0601), which is inserted in the sample plate PP.

**Measurement plate PP:**

for enBSK sensor head

Dimensions : 15 x 9 mm  
Material : Anodised aluminum  
Weight : 200 g