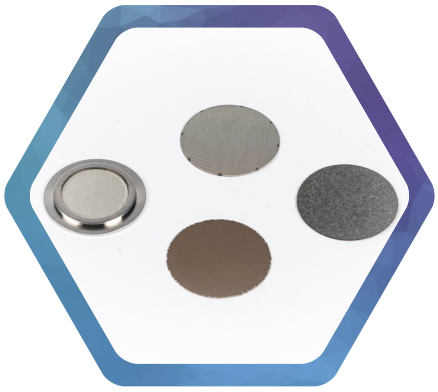
FILTER SELECTION DATASHEET



Introduction:

These specially designed filters are mounted in front of the sensor and protect the resistive electrolytic sensor element against chemical contamination and degradation.
As the inner part of the sensor consists of a liquid, volatiles which dissolve and dissociate are extremely dangerous and harm the sensor in a very short time.

Be aware that sensor failure due to chemical contamination by NOT using an appropriate chemical filter is not covered by warranty and replacement goes 100% on the user's account.
For that reason, it is inevitable to check sample composition for volatiles PRIOR to order the instrument. Your local Novasina representative will ask you those questions and will hand you this document for signing.
We fully understand if sample compositions and/or recipes are not shared with us, nervertheless we must gather the information to ensure, that we offer the best possible solution for a reliable, accurate and repeatable water activity measurement of your samples.

Changing of filters

There are many questions about the changing interval of filters. Unfortunately, there is no precise guideline but a **rule of thumb**:

- If you do less or equal than 10 measurements a week, change filter every 6-12 months.
- If you do more than 10 measurements a week, change filter every 3-6 months.
- If instrument is in use day and night, change filter every 2 months.

Please read the **operating instruction manual** of the water activity meter as well to learn about the procedure how to find out the optimal chemical filter changing interval. It is **important that the filter is changed** from time to time as it is of saturation type. Once saturated, volatiles will pass through and **harm the sensor**.

General information regarding sensor

The sensor has a grey/brownish coating. Any **cleaning/repeal may damage the sensor**

Alcohol samples / alcohol sensor

Be aware that sometimes filter combinations must be used to get highest protection efficiency. **As soon as ethanol is involved, our alcohol-resilient sensor** (CM-3 for LabTouch-aw or awSens-ELS for LabMaster-aw neo) must be used. If ethanol is present in conjunction with other volatiles, select the alcohol-resilient sensor plus the respective filter(s) from the selection list (page 2 and 3). Samples should not have water activity level <0.3aw.
Note: there is no alcohol-resilient sensor available for LabSwift-aw or LabStart-aw.

General note: **chemical filters will extend the measurement time** as the water vapor has to pass through the filter.

If you have doubts about the procedure or feel unsure how to work that out, please do not hesitate to contact your local Novasina representative or check www.Novasina.ch/lab/support.

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What to take when?

Known volatiles	Mark here the volatiles in your samples	Acid Filter	Volatile Filter	Redox	Regeneration Kit	CM-3 awSens-ELS
Acetic acid *(e.g. vinegar, mustard etc)*		X				
Alcohols, secondary *(e.g. 2-Propanol,2-Butanol)*				X		
Amines *(e.g. urea, ammonia)*					X	
Aroma, light *(fruit, yeast, hop, herbs, vanilla, orange)*				X	X	
Aroma, strong *(like spices, herbs)*			X		X	
Butyric acid		X				
Cannabis			X		X	
Essential oil *(only pure menthol, etc)*			X		X	
Ethanol *(ethyl alcohol)*						X
Formic acid		X				
Furanes *(bread aroma)*				X		
Glycerin *(e.g. in PET Food, protein bar)*			X in case of additional volatiles	X		
Hydrocarbons, aromatic					X	
Hydrogen halides		X				
Hydrogen peroxide		X				
Hydrogen sulfide		X				
Ketones *(e.g. acetone or MEK)*				X		
Nicotine, Snus					X	
Perfumes, fragrances			X		X	
Phenol				X		
Propylen-glycol, polyethylen-glycol				X		
Sulfur dioxide		X				
Sulphuric acid		X				

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Which filter and sensor for which instrument?

Instrument	Acid Filter P/N 1111001	Volatile Filter** P/N 2602626	Redox* P/N 1117212	Acid Filter (neo) P/N 2601662	Volatile Filter (neo) P/N 2601724	Redox (neo) P/N 2601330	Regeneration Kit*** P/N 2601962 only for CM-2 sensor and awSens ENS	CM-3 P/N 2600536	awSens ELS P/N 2601615
LabMaster-aw neo				X	X	X	X		X
LabMaster-aw basic, standard, advanced	X	X	X				X	X	
LabTouch-aw	X	X	X				X	X	
LabSwift-aw	X	X	X				X***		
LabStart-aw	X	X	X				X***		

*Note: if a Redox filter is installed, no secondary filter can be mounted due to missing space in the measurement chamber.

**Note: for filter combination the placement is not important but for practical reasons the acid filter can be placed in the direction of the sensor, the eVALC in direction measurement chamber.

***Note: it is possible to use the regeneration kit with the LabSwift-aw and LabStart-aw. However, due to no temperature control, the efficiency of the regeneration at room temperature is quite low. If possible, put the whole instrument with the Regeneration Kit inside the measurement chamber in an preheated oven at 30-40°C and proceed with the regeneration (see instruction for using the Regeneration Kit doc. nr. 006785.xx)

I confirm that I have verified all samples to be measured on the water activity meter and marked the critical components / volatiles in the table above.
If anything is marked, I confirm that any of the listed volatiles are present in the samples.

Company stamp/Name/Position:_____ Place/Date: _____

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