

Filtration Unit 3



The EST - TSHR AOX sample filtration unit, Filtration Unit 3 model, is designed to prepare AOX samples using the batch and column method. After this sample pre-treatment stage, the samples are ready for analysis using the NEXIS TX model AOX analyzer.

Key advantages

No risk of contamination

Easy to use and 3 filtration individual stations

Re-usable and self-cleaning quartz frits with no blank value

Pressure controlled and use of only nitrogen gas or cleaned air

The Filtration Unit 3 is equipped with 3 stations to be used individually for both the AOX batch and AOX column method filtration procedure.

For the AOX batch method a reusable quartz frit is used which is inert and will separate the water from the activated carbon after the adsorption process. Next the quartz frit is ready for introduction into the AOX module of the NEXIS TX analyzer for combustion and quantitative determination of the AOX content in the sample.

For the AOX column method, 2 pre-filled columns are connected to the adaptor of the individual station using luer-lock fittings for easy and quick connection.

The **AOX batch method** is based on the adsorption of the organic halogens onto activated carbon. A mixture of 50 mg activated carbon and 100 mL water sample is shaken for at least one hour according to the DIN, ISO and CEN regulations. During this treatment stage, the activated carbon adsorbs the organic halogens. Gas pressure forces the water through the quartz frit, leaving only the active carbon behind. Inorganic chlorides are removed while rinsing with a nitrate wash solution. Once the pre-treatment is completed, the quartz frit with activated carbon is transferred into the AOX analyzer.

The **AOX column method** includes, halogens are adsorbed onto activated carbon inside 2 pre-packed columns which connected to the filtration unit. 100 mL sample is flowed with 3 ml/min over the columns. Organic halogens will adsorb onto the first and second column. During the washing stage, inorganic chlorides are removed using a nitrate wash solution. The carbon content of each column is emptied into a reusable quartz sample cup and transferred into the NEXIS TX analyzer. The second column operates as a “break-through” check. If the analytical result of the second column is more than 10% of the total of both columns, the sample should be diluted and re-run. A frit may be used as particulate filter, to protect columns from “obstructing” the sample flow.

TECHNICAL SPECIFICATIONS

Dimensions	500 x 520 x 290 mm (WxHxD)
Weight	5 kg
External gas connection	1/8" Swagelok
Gas	Nitrogen (technical grade), cleaned air
AOX methods	Batch method, Column method
Waste collection	Central waste collection with drain capability
Filtration operation	Manual
Filtration channels	3
Filtration speed	0 - 50 mL/min
Supply Gas pressure	3 - 8 bar
Sample volume	10 - 150 mL
Wash volume	10 - 150 mL



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