

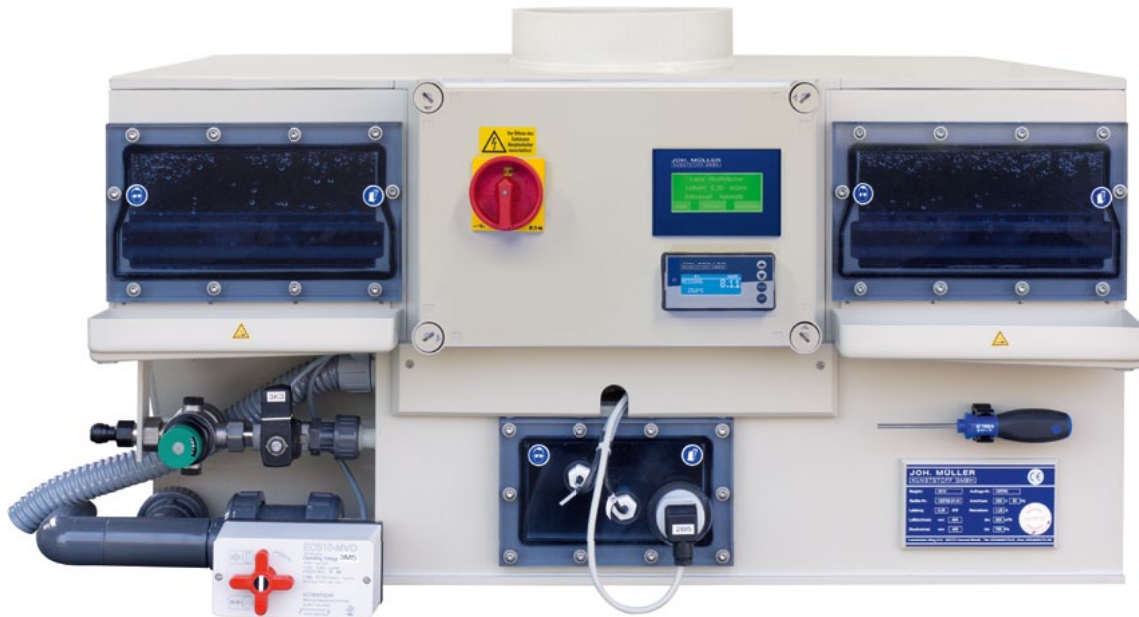


Compact Solutions

for your Exhaust Air/Waste Water Problems

MAALS

Laboratory Exhaust Air Absorption Systems



AWN

Waste Water Neutralisation Systems



- Integration into laboratory extraction system through compact design
- Extremely low-maintenance design
- High degree of efficiency (up to 96%)

Now even easier
to maintain!



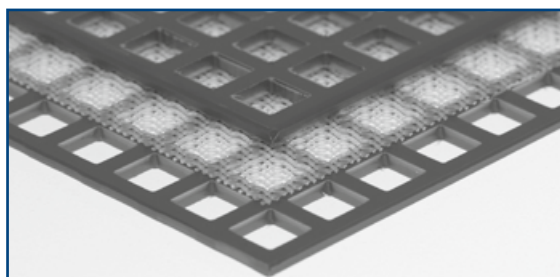
SPS control in splash proof housing, easy to dismantle.



Interactive touch display for operation and status information (green/yellow/red).



Bell base element



Sieve plate removable, sieve interchangeable for minimal maintenance costs.



High-quality hose connections for maintenance-free pump pressure lines.
Easy to service screws for sight glasses and pump.

The MAALS exhaust air washer

can be integrated as an additional element into an existing exhaust extractor cowl. Through its newly developed bell base, the washing principle is characterised by a particularly high degree of efficiency at very low water and power consumption.

The washing principle:

The water utilised as washing liquid is distributed over the bell base by means of a maintenance-free, low-noise pump. The air sucked into the extract cowl is guided through this bell base and, in combination with the cleaning water, creates a very strong bubbling effect which then separates up to 96% of contamination from the air.

Method of operation:

The MAALS absorption system functions fully automatically and requires almost no maintenance. Washing is regulated by means of a memory-programmable compact operating unit. Filling and refilling of the washing water is carried out automatically via a level regulator which also controls the protection for the start-up and drying processes. Disposal of the contaminated cleaning water is carried out via a motor-driven ball faucet with a large, free cross-section (standard version).

Features:

- Standard production text and operator panel for display of operational and malfunction messages. The 5m connector cable supplied between SPC control and text/operator panel additionally permits optional fitting in the extractor frame, posts, or extractor doors.
- Improved safety due to standard fitment of a pressure reducer in the fresh water supply line.
- Monitoring of both waste water and fresh water systems.
- Easy to service screw connections, high-quality hose connections, separately placeable touch display
- Provision of PDF format washer-specific documentation for convenient processing and archiving of the respective job.

The variants:

- **conductivity monitoring:**
The electrical conductivity of the water is continuously monitored. The washing water is purged once conductivity has attained an adjustable pre-set threshold value.
- **pH monitoring:**
The washing water is purged once the cleaning water has attained an adjustable pre-set pH value.
- **pH regulating:**
The washing water is neutralised with the help of a pH dispensing facility so that it can be fed to the drainage system in a pH neutral condition.
- **Redox regulation**
By adding in doses, the washing fluid obtains the required redox potential.
- **Transmission of error messages to GLT**

Results:

The MAALS absorption system achieves above-average separation of contaminants. This has been confirmed on numerous occasions by an independent, state-recognised institute*.

The following degrees of absorption are possible:

hydrochloric acid: 94,0 %	nitric acid: 92,0 %
ammonia: 81,5 %	sulphuric acid: 96,0 %
drofluoric acid: 96,0 %	perchlor acid: 94,0 %

* IMU - Institute for Material and Environment Analysis GmbH (Erfurt)

* WHG Water Act

Typ	MAAIS-1	MAAIS-2
Material	PP	PP
Dimensions (W x H x D)	965 x 550 x 690 mm	1256 x 550 x 690 mm
Capacity	600 – 900 m ³ /h	800 – 1200 m ³ /h
Pressure loss	420 – 650 Pa	
Air connections		
Air inlet	1 union Ø 200 mm (central) or 2 union Ø 200 mm	1 union Ø 250 mm (central) or 2 union Ø 200 mm
Air outlet	1 union with flange Ø 250 mm	
Water connections		
Water inlet	ILA plug-in-system d=10 mm, max. 3 bar	
Water outlet	PVC connecting sleeve DN32 or hose sleeve 1 1/4"	
Electrical connections		
Power supply	230V/50Hz alternating current I _N = 1.25A/P _N = 0.20kW	
Switch-on contact	External, potential-free contact, for minimum 24V DC (on site)	
Monitoring	Operating and disturbance signal for connecting to indicator lamp on site (230 V/max.0.1 A)	

AWN

The AWN drainage water neutralisation system can also be integrated into the exhaust vent cowl. It serves to neutralise acid and (or) alkaline water from the washer and laboratory.

Method of operation:

The AWN drainage water neutralisation system functions on the batch principle. With 600 l/h, the capacity of the system is ideal for service in laboratories. The drainage water is collected in the integrated collector and, once this has attained the stipulated level, fed to the neutralisation container. The pH value in the neutralisation container is continuously monitored and the water churned, and alkaline solution or acid is dispensed in the container until the stipulated pH value is attained.

The collector can also be refilled during neutralisation which almost entirely eliminates waiting times in the laboratory. Once the pre-set pH value has been attained, the neutralised medium is then pumped into the drainage system via a 3-way motor-driven ball faucet.

All functions are controlled and monitored by means of the memory-programmable control unit (Siemens). The following signals can be displayed via an external indicator lamp:

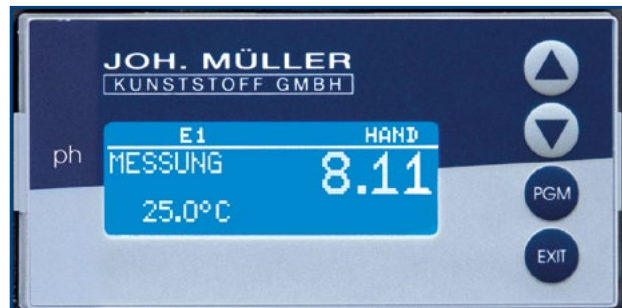
- normal operation
- various fault signals
- filling level monitoring of the integrated alkaline solution/acid dispensing container

The extractor:

The neutralisation system of the type AWN is available only as a fully-automatic system.

Results:

With the help of the AWN neutralisation system, all acidic or alkaline laboratory water is disposed of once it has reached a certain pH level, in accordance with § 19 of the WHG*



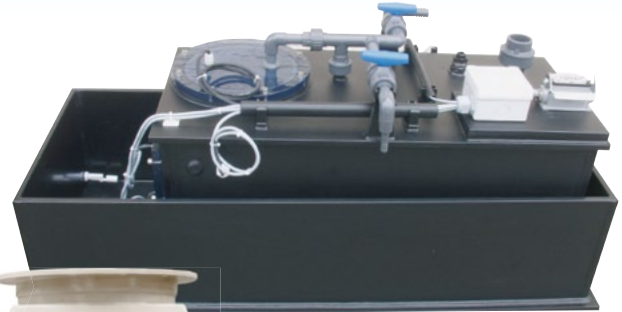
Conductivity display

Type	AWN
Material	PP
Dimensions	840 x 560 x 600 mm (W x H x D) (2-sided-neutralisation)
Capacity	max. 600 l/h
Water connections	
Water inlet	PP hose sleeve NW 25
Water outlet	PVC hose sleeve NW 25
Electrical connections	
Power supply	230V/50Hz alternating current I _N = 3.15A/P _N = 0.6kW
Monitoring	Normal operation, disturbance signal and monitoring of the reserve container for connecting to indicator lamp on site (230 V/max. 0.1 A)

Special Designs + Filter



ECA
Collection point for chemical waste water



SAW-100
Decay unit for radioactively charged waste water



Mobile special exhaust cabinet complete with 2 filter units and fan (customer-specific)



MAASS
Upright variation of an absorption system for extracting exhaust laboratory air.



Activated carbon filter system, available with filter cartridges or for high loads with packages; Special design possible, pre and secondary filter – freely selectable



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AWN