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# POX-Monitor

Continuous detection of halogenated organic compounds

- In heavy polluted waste waters
- Low detection limit
- Short response time

### PAIPOX-Monitor



Halogenated organic compounds are widely used in chemical industries as solvents, intermediates and products. Most of these products pose a considerable threat to human health as well as to environment.

Therefore, a reliable and sensitive monitoring device is needed!

The **PAIPOX-Monitor** was invented to meet these requirements!

The main application is waste and cooling water monitoring in chemical processes. It even can be used in highly polluted waste waters with a high VOC-load.

#### Operation principle

Purgeable organic compounds are stripped off the sample and transferred into a stream of demineralized water. In a UV-radiation initialized reaction the organic compounds are decomposed and the resultant halogenic-ions are detected potentiometrically. The initial POX-concentration is calculated using a calibration curve.

Turbidity, colour or pH-value don't have an influence on the measurement!

The following list shows some compounds that can be detected by the **PAIPOX-Monitor**.

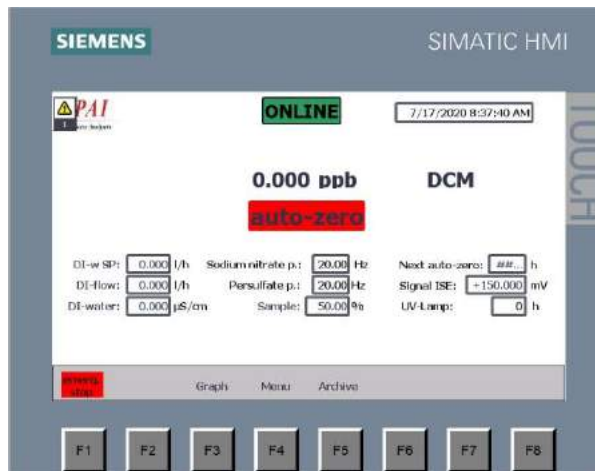
Chlorobenzene  
Chloroform  
Dichloroethane  
Dichloroethene

Dichloromethane  
Chloropropane  
Epichlorohydrin  
Tetrachloroethane

Tetrachloromethane  
Trichloroethane  
Trichloroethene  
Vinyl chloride

...

### Handling



General control, Parameter setting and the visualisation of measurement results, error messages as well as maintenance requests are displayed on 7"-touch panel. All menus are password protected to prevent unauthorized intervention. The screen displays measurement results numerically as well as graphically. For multiple

channel instruments the values are displayed for each channel separately.

### Data-storage

Results, alarms and maintenance messages are stored in separate memories on a SD-card installed in the panel.

### High Reliability

By using only high-quality components we are able to deliver a very robust instrument with an excellent reliability. Down time for maintenance is just a few hours per year only.

All parts are easily accessible and are replaced in a few minutes. The user himself can do all maintenance work. Down times of the instrument are minimized!

### Communication

Standard communication with a PC is via Ethernet RJ45. This allows downloading of stored results. Other interfaces and protocols like Modbus or Profibus are available as options.

### Outputs

A maximum of 8 analog outputs (4 to 20mA) are available for concentration. Relay outputs are switched in case of a system fault or when maintenance is required.

### Flexible design

Due to the flexible design, the instrument can easily be configured to meet special customers' demands.

### Options

- Multiplexer for up to 8 channels
- Detection of purgeable brominated compounds
- Detection of non-halogenated organic compounds ("VOC")
- Filtration systems
- Insitu-Stripper
- Profibus
- Modbus
- ATEX
- Audit-Trail

### Maintenance

All functions are continuously controlled during operation. Any malfunction will trigger an alarm and a text message is displayed on the screen. Also, all faults are stored in the memory of the instrument.

Critical parameters like UV-lamp live time and the quality of the demi-water are continuously monitored. If maintenance is necessary a text message is displayed and a digital output is triggered (optional). This makes maintenance a lot easier!

All maintenance work can be done by the user himself! No special tools or knowledge is required!

### Analog outputs

Up to 8 analog outputs (0/4 to 20 mA) are available. They are galvanically separated with a max. load of 500 Ohms.

### Sample pre-treatment

Depending on the waste water matrix a filtration may be necessary.

The implemented automatic back flush system keeps the filterelement clean and ensures almost maintenance free operation.

The back flushing is either controlled by the analyser or by seperated controller.

All wetted parts are made of PVC and stainless steel.



### Specifications:

<b>Method:</b>		Potentiometric determination after UV-digestion
<b>Range:</b>		Approx. 0,1 – 1000 ppm
<b>Interval:</b>		Continuous, T <sub>90</sub> approx. 5 minutes
<b>Channels:</b>		Max. 8
<b>Sample:</b>	<i>Pressure:</i>	No pressure, sampling by integrated pump
	<i>Flow:</i>	10 – 20l/h
	<i>Temperature:</i>	> 0 - 30 °C (higher temperatures with optional sample cooler)
<b>Detector:</b>		Potentiometric 2 electrodes, NDIR (option)
<b>Alarms:</b>		Fault (potential free, NC/NO) Maintenance request (potential free, NC/NO) Threshold (potential free, NC/NO), option
<b>Status signal:</b>		For remote control (potential free, optional)
<b>Analog outputs:</b>	<i>Max 8</i>	(0)4 – 20mA, galvanically separated, max. 500 Ohms
<b>Digital input:</b>	<i>variable</i>	Start/Stop etc. (optional)
<b>Communication:</b>		Ethernet, Profibus (optional), Modbus (optional)
<b>Environmental cond.:</b>		Inhouse mounting
	<i>Rel. humidity:</i>	5 – 95% (not condensing)
	<i>Temperature:</i>	10 – 40 °C
<b>Housing:</b>	<i>Standard:</i>	Wall mounting, Upper part: steel, powder coated Lower part: fiber reinforced unsaturated polyester
	<i>ATEX:</i>	Stainless steel, fiberglass enforced GFK with PU-foam insulation
<b>Dimensions:</b>		600x1180x350mm (WxHxD) non ATEX only
<b>Weight:</b>		±60 kg
<b>Supply:</b>	<i>Mains:</i>	85 - 264V ac, 100 watts 45 - 65Hz
	<i>Instrument air:</i>	Dry, oil free according ISA-S7.0.01-1996 (optional for corrosive atmosphere and atex)
	<i>waste:</i>	Atmospheric open

Errors and omissions accepted! Technical data are subject to change!

Vers. 01.01.2021