

# The requirement of Parametric Release: SONOS Gas Analysis System for the Continuous Measuring of Ethylene Oxide and Moisture in Gas Sterilizers

Ethylene oxide is being used in clinical and industrial sectors in sterilizing processes for inactivation of all microorganisms. For validation and quality management of this sterilizing process, the Medical Products Act, the Operator Regulation and the valid ISO and EURO norms require the operator to collect and document directly all parameters relevant to the process. Those parameters relevant to the process are temperature, pressure, moisture, concentration of ethylene oxide and residence time. In the case of parametric release, the relative moisture and the concentration of ethylene oxide in the sterilizing chamber must be determined by direct and continuous measurement during the sterilization process. The number of measuring points can be fitted to the size of the sterilizer.

## ➤ Adaptation to the Process

Through a vacuum-tight measuring adapter with reversing valves for measuring points, the SONOS system is adapted to the sterilizer.

## ➤ Continuous and Direct Measuring

The measuring of moisture and ethylene oxide is done continuously and directly by leading the gas flow through the measuring cell of the analyser, by which an oscillation is created. The SONOS analysis system is secured by flame arresters.

## ➤ Simple and Practicable Measuring

The handling of the measuring is simple. The operator is led through the measuring mode through the screen display. Regular reference measuring guarantees the measuring security of the system.

## ➤ Measuring Protocol

The documentation of the measuring is done online through a connected LAPTOP/PC and /or a recorder. Connecting to the in-house computer system via Ethernet is possible.

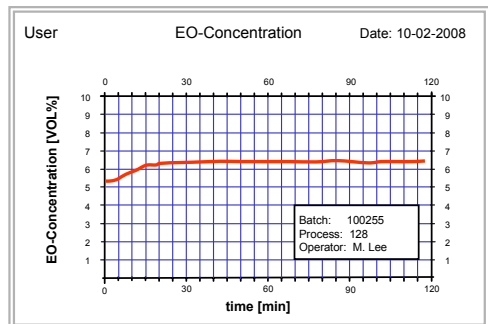
## ➤ Service via Internet/ISDN

The analysing system can be checked at any time or place via Internet/ISDN with a connected PC.



SONOS Gas Analysis System for measuring moisture and ethylene oxide. Mounting plate with measuring head, pressure control, filter and flame arresters.

Vacuum tight measuring adapter with reversing valves.



Sterilizing protocol: Concentration of EO in [VOL %]. The display of the concentration in [mg/l] is eligible.

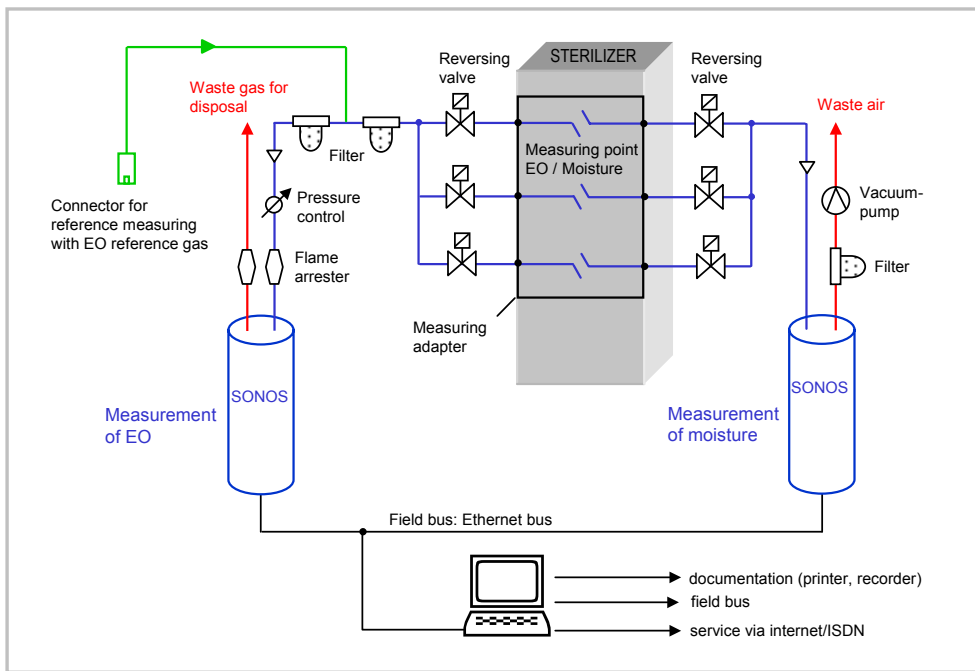


Single door DMB-STERIVIT-STERILIZER with integrated desorption program and parametric release.

Foto: DMB-Apparatebau Ltd., Wörrstadt



Gesellschaft für Labor- und Prozessanalytik mbH



**Configuration: SONOS Gas Analyzing System for measuring ethylene oxide in overpressure conditions and for measuring moisture in underpressure conditions**

Technical Data		
Components to be measured	Ethylene Oxide	Moisture
Material of the parts touching gas	PVDF and stainless steel	PVDF and stainless steel
Measuring range	0 – 20% or 0 – 800mg/nl	0 – 100%
Measuring gas temperature	40 – 60°C	40 – 60°C
Input pressure	20mbar – 1,5bar absolut	20mbar – 1,5bar absolut
Quantity of measured gas	1l/h – 10l/h	1l/h – 10l/h
Measurement accuracy	± 2% of measuring range selected	± 3% of measuring range selected
Dimension of the displayed values	ppm, mg/nl or VOL%	ppm or VOL%
Voltage supply	230 VAC, 48 VAC, 24VAC	230 VAC, 48 VAC, 24VAC
Response time	3sec	3sec
Adjusting time T90	10 – 30sec	10 – 30sec
Connection process gas IN/OUT	1/8" Swagelok screw joint	1/8" Swagelok screw joint
Connection reference gas	1/4" Swagelok screw joint	1/4" Swagelok screw joint
Interface to the PC for graph and long-term recording	RS 232/485/422	RS 232/485/422
Analogue output to a recorder	4...20 mA or 0...10V	4...20 mA or 0...10V
Service Interface	Internet/ISDN	Internet/ISDN
Casing types	Tube casing, d=130mm x L=500 mm, 1/2 19"-carrying case, 19" housing or rack	Tube casing, d=130mm x L=500 mm, 1/2 19"-carrying case, 19" housing or rack
External modules	filter, vacuum pump for underpressure sterilizers	filter, vacuum pump for ≤ 80mbar