

AIVI

Biofilm Monitoring System

Catalog

2022

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GUEMISA

SENSORES E INSTRUMENTACION GUEMISA S.L.
C/ Del Electrodo, 68 Oficina-23 28522 Rivas Vaciamadrid (Madrid)
Tfno.: 91 764 21 00 info@guemisa.com

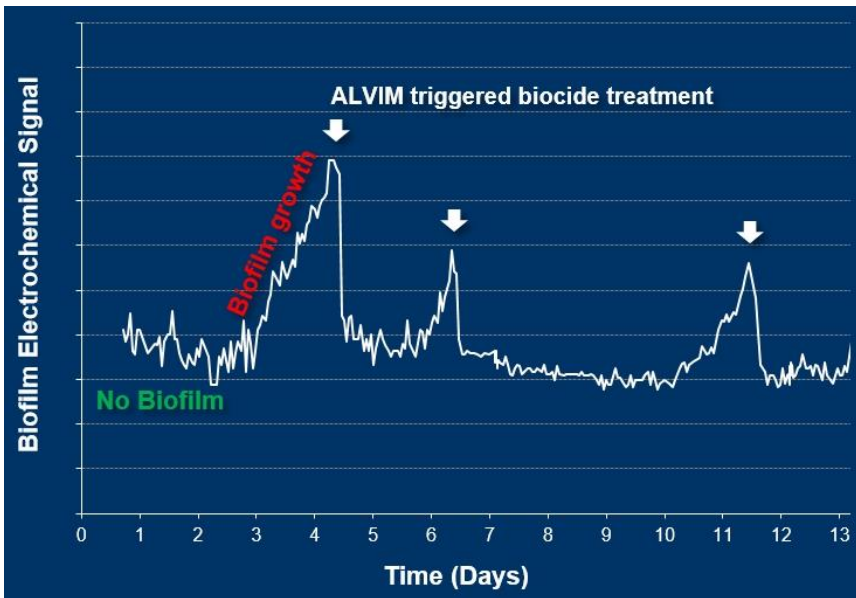
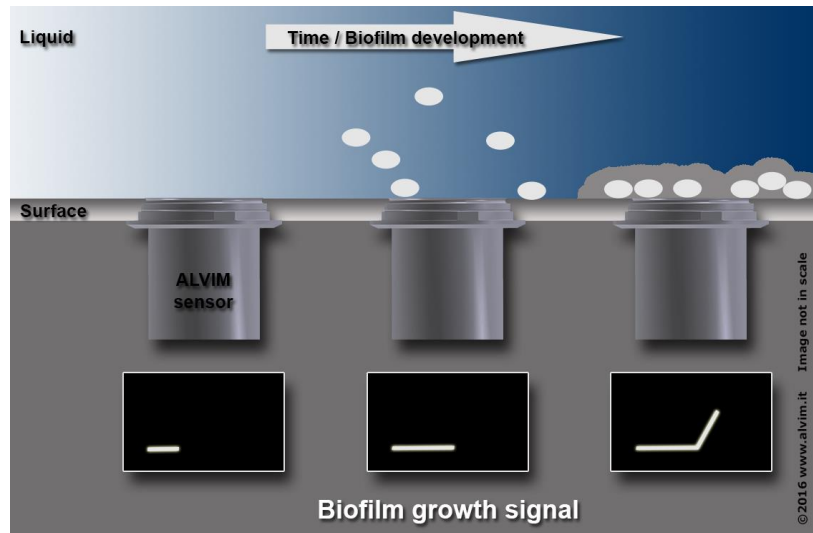
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ALVIM Biofilm Monitoring System - Catalog
Latest update: 23 September 2022

The ALVIM Technology

The ALVIM real-time, on line, Biofilm Monitoring System is able to detect bacterial settlement since its first phases (down to 1% of surface covered by microorganisms). Basing on ALVIM data it is possible to adjust and optimize water treatments / biocide treatments, verifying, at the



same time, the efficacy of the sanitation. ALVIM Biofilm Sensors are used worldwide in many different fields, ranging from industrial cooling waters to Food and Beverage, Pulp and Paper, Oil and Gas and others, including many Fortune 500 Companies.

Among the users of the ALVIM Biofilm Monitoring System:



A001S3 Biofilm Sensor



ALVIM standard sensor, suitable for most industrial applications. Given its corrosion resistance, it is particularly indicated for seawater applications

Connection to the process

1" BSPP thread

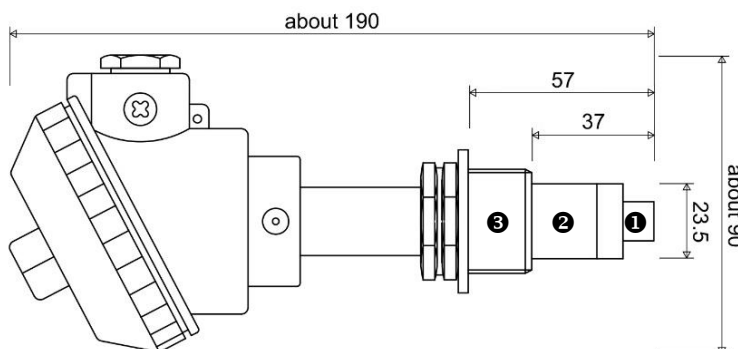
Materials in contact with the process

Titanium (working electrode ❶), Zinc (counter electrode ❷), PVC (threaded connector ❸)

Sensitivity

1-100% of surface covered by biofilm (i.e. the first bacterial layer)

Measures (mm)



Operating conditions

Temperature:

-10<T<+60 °C
(to monitor biofilm growth: +2<T<+40 °C)

Oxygen:

>1 ppm
(at the maximum sensitivity level)

Pressure:

<10 bar

Conductivity:

>10 μS/cm

Power supply

12 / 24 V DC ±20%, 500 mA

Data communication

4-20 mA and RS485/MODBUS RTU

Wiring

6-wire cable (external diam.<8 mm, wire section=0.5 mm²)
2 wires used for power supply, 2 for RS485/MODBUS communication, 2 for 4-20 mA data transmission

Software - Minimum system requirements (RS485/MODBUS)

PC with Windows XP/7/8/10, 1 GHz CPU, 512 Mb Ram, 200 Mb of free space on hard drive, RS485 serial interface or USB port (for USB-RS485/MODBUS converter)

Windows is a registered trademark of Microsoft Corporation in the United States and other countries.

AS01S3 Biofilm Sensor



With hygienic connection to the process, flat surface in contact with the liquid and high resistance to chemical treatments, this model is indicated for applications where hygiene is critical

Connection to the process

VARIVENT® Type N
(for pipes from DN 40 to DN 150)

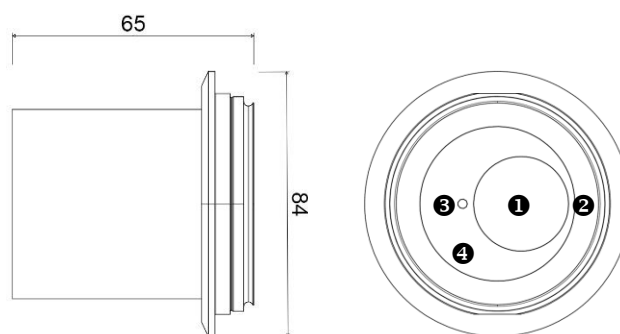
Materials in contact with the process

Stainless Steel (working electrode ❶, VARIVENT® connector ❷), coated Titanium (counter electrode ❸), PEEK ❹, EPDM (O-Ring)

Sensitivity

First bacterial layer

Measures (mm)



Operating conditions

Temperature:

-10<T<+150 °C
(to monitor biofilm growth: +2<T<+40 °C)

Oxygen:

>1 ppm

Pressure:

<10 bar

Conductivity:

>30 µS/cm

Power supply

12 / 24 V DC ±20%, 500 mA

Data communication

4-20 mA and RS485/MODBUS RTU

Wiring

6-wire cable (external diam.<8 mm, wire section=0.5 mm²)
2 wires used for power supply, 2 for RS485/MODBUS communication, 2 for 4-20 mA data transmission

Software - Minimum system requirements (RS485/MODBUS)

PC with Windows XP/7/8/10, 1 GHz CPU, 512 Mb Ram, 200 Mb of free space on hard drive, RS485 serial interface or USB port (for USB-RS485/MODBUS converter)

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AS11S3 Biofilm Sensor



With hygienic connection to the process, flat surface in contact with the liquid and high resistance to chemical treatments, this model is indicated for applications where hygiene is critical

Connection to the process

1" - 1 1/2" DIN 32676, ISO 2852

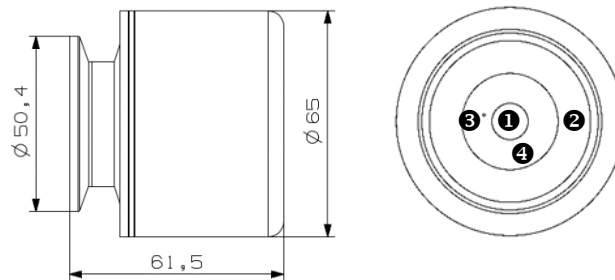
Materials in contact with the process

Stainless Steel (working electrode ①, fitting ②), coated Titanium (counter electrode ③), PEEK ④

Sensitivity

First bacterial layer

Measures (mm)



Operating conditions

Temperature:

-10<T<+150 °C
(to monitor biofilm growth: +2<T<+40 °C)

Oxygen:

>1 ppm

Pressure:

Determined by clamp

Conductivity:

>10 μS/cm

Power supply

12 / 24 V DC ±20%, 500 mA

Data communication

4-20 mA and RS485/MODBUS RTU

Wiring

6-wire cable (external diam.<8 mm, wire section=0.5 mm²)
2 wires used for power supply, 2 for RS485/MODBUS communication, 2 for 4-20 mA data transmission

Software - Minimum system requirements (RS485/MODBUS)

PC with Windows XP/7/8/10, 1 GHz CPU, 512 Mb Ram, 200 Mb of free space on hard drive, RS485 serial interface or USB port (for USB-RS485/MODBUS converter)

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AX03S3 Biofilm Sensor



ATEX certified, this model is indicated for classified areas and applications where there is a risk of explosion (e.g. Oil&Gas)

Connection to the process

1" BSPP thread

Materials in contact with the process

Titanium (working electrode ❶), Zinc (counter electrode ❷), POM-C, Stainless Steel (threaded connector ❸)

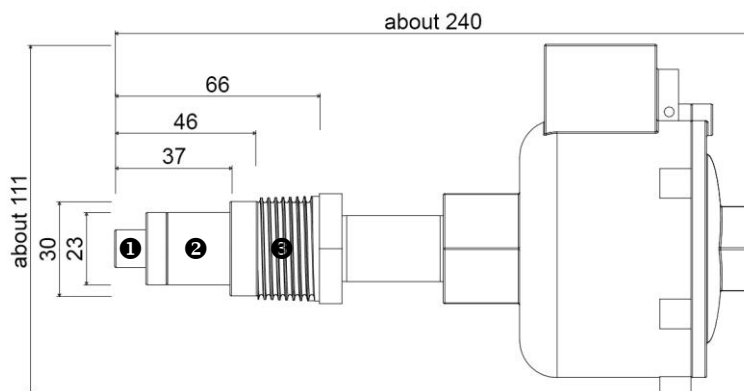
Sensitivity

1-100% of surface covered by biofilm (i.e. the first bacterial layer)

ATEX string

Ⓔ II 2G Ex mb IIB T6 Gb

Measures (mm)



Operating conditions

Temperature:

-10<T<+50 °C
(to monitor biofilm growth: +2<T<+40 °C)

Oxygen:

>1 ppm
(at the maximum sensitivity level)

Pressure:

<10 bar

Conductivity:

>10 μS/cm

Power supply

12 V DC ±20%, 500 mA

Data communication

4-20 mA and RS485/MODBUS RTU

Software - Minimum system requirements (RS485/MODBUS)

PC with Windows XP/7/8/10, 1 GHz CPU, 512 Mb Ram, 200 Mb of free space on hard drive, RS485 serial interface or USB port (for USB-RS485/MODBUS converter)

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Control Box



ALVIM Control Box includes power supply unit and data communication card. It can be used with A001S3, A003S3 and AS01S3 sensors

Size	150 x 110 x H70 mm
Operating conditions	
Temperature:	-10<T<+50 °C
IP Rating:	IP56 (excluding data communication card)
Power supply unit	
	Input: 100-240 V AC, 50/60 Hz
	Output: 12 V DC, 1A
Available versions	
	CB-USB (with USB data communication card)
	CB-USB420 (with USB data communication card and additional power unit for 4-20 mA)
	CB-TCP (with Modbus TCP gateway) *
	CB-WIFI (with Modbus TCP over Wi-Fi gateway) *

** Available on request*

