



**Alvim**

**Biofilm Monitoring System**

**Catalog**

**[www.alvim.it](http://www.alvim.it)**



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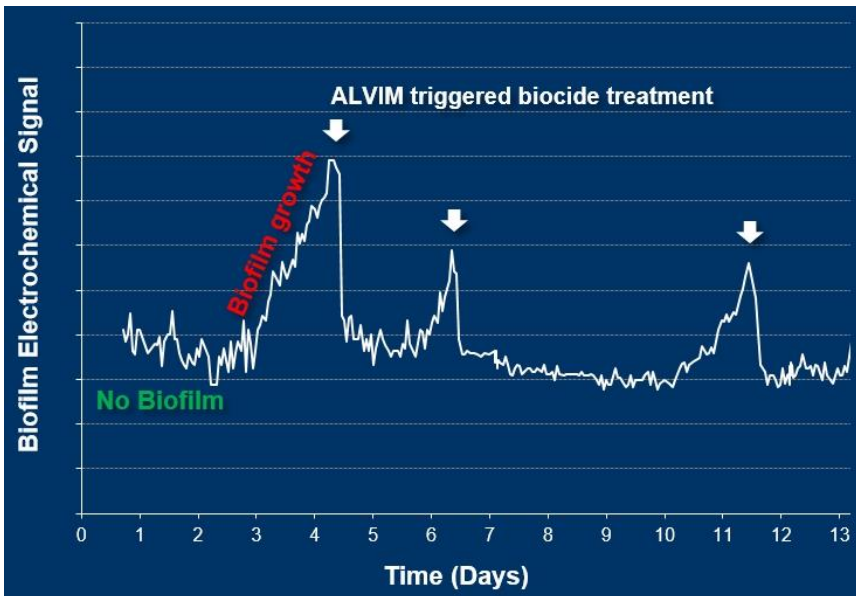
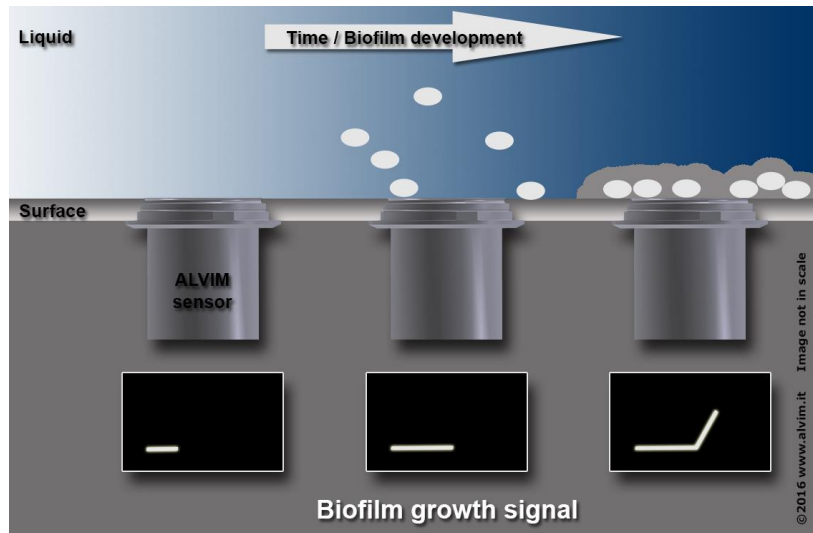
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ALVIM Biofilm Monitoring System - Catalog

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# 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:



For more info:

[www.alvim.it](http://www.alvim.it) | [info@alvim.it](mailto:info@alvim.it) | +39 0108566345

# 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 threaded connector

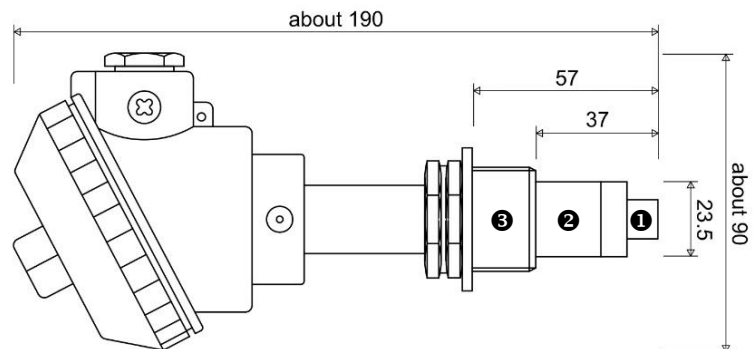
**Materials in contact with the process**

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**

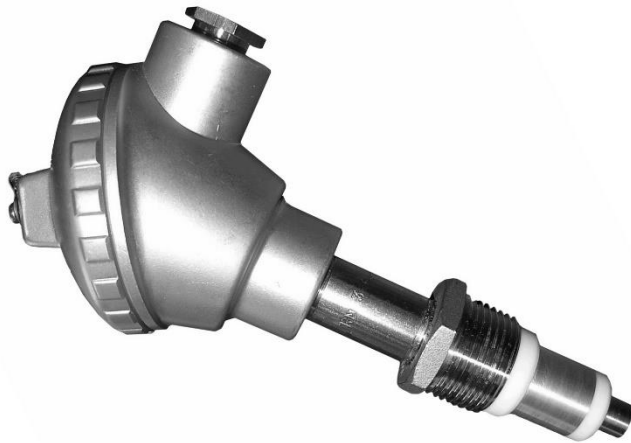
Standard 6-wire cable, FROR 6x0.5 suggested (2 wires used for power supply, 2 for RS485/MODBUS communication, 2 for 4-20 mA data transmission)

**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.

# A003S3 Biofilm Sensor



Suitable for most industrial applications. Compared to A001S3 sensor, this model can tolerate higher temperatures

**Connection to the process**

1" BSPP threaded connector

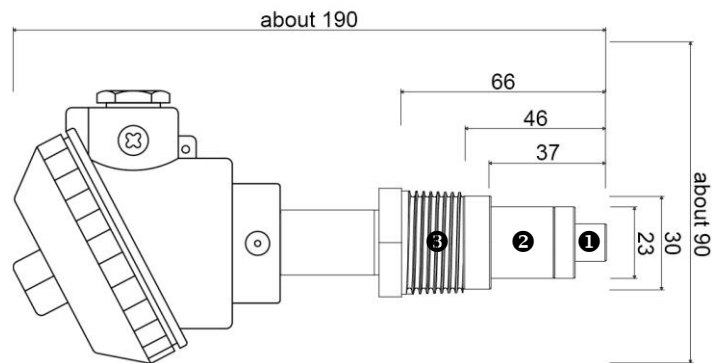
**Materials in contact with the process**

Titanium (working electrode ❶), Zinc (counter electrode ❷), PTFE, Stainless Steel (threaded connector ❸)

**Sensitivity**

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

**Measures (mm)**



**Operating conditions**

Temperature:

-10<T<+120°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**

Standard 6-wire cable, FROR 6x0.5 suggested (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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# 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)

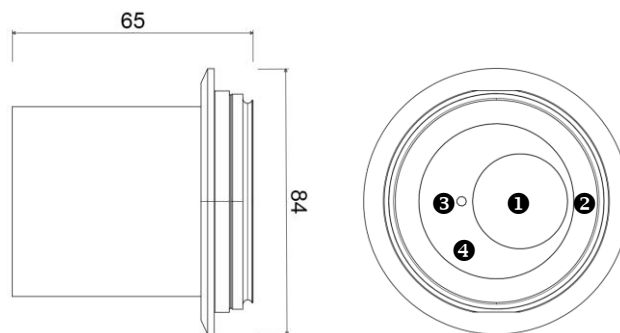
## Materials in contact with the process

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

Standard 6-wire cable, FROR 6x0.5 suggested  
(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)

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

# 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 threaded connector

## Materials in contact with the process

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

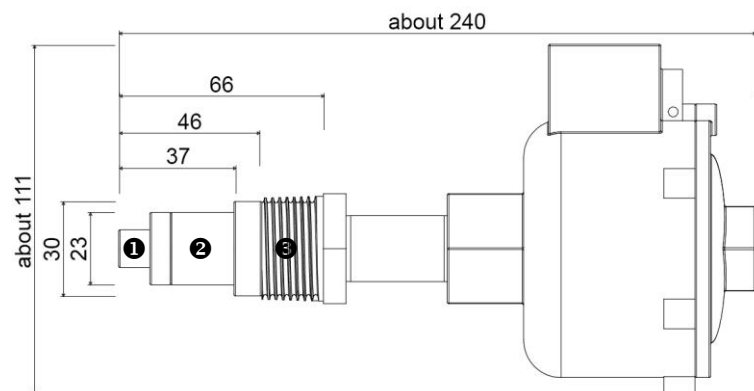
## Sensitivity

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

12V 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**

<b>Size</b>	150 x 110 x H70 mm
<b>Operating conditions</b>	
Temperature:	-10<T<+60°C
IP Rating:	IP56 (excluding data communication card)
<b>Power supply unit</b>	Input: 100-240V AC, 50/60 Hz Output: 12V DC, 1A
<b>Available versions</b>	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*



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