

A photograph of two scientists in a laboratory setting. The scientist on the right is in the foreground, wearing a white lab coat and looking intently at something off-camera. The scientist on the left is wearing blue nitrile gloves and holding a pipette tip. The background is a blurred laboratory environment with blue lighting.

VAISALA

Bio-Decontamination Measurement Guide

Validating Vaporized
 H_2O_2 the Easy Way

Meaningful Observations for a Better World



Welcome Colleague! The purpose of this Bio-Decontamination Measurement Guide is to share theory and practical examples of how measuring vaporized hydrogen peroxide, temperature and humidity adds value to bio-decontaminating facilities, isolators, transfer hatches and other equipment.

Vaisala is a global leader in industrial and environmental measurement, committed to reliable environmental observations for better decision making, safety and efficiency.

Watch: Vaisala - Future Positive



Explore



LEARN

Glossary and Q&A



WATCH

Webinars & Video



DISCOVER

PEROXCAP Technology



MEASURE

Instruments & Applications



EXPERIENCE

Vaisala Life-Cycle Services



INQUIRE

Contact Us

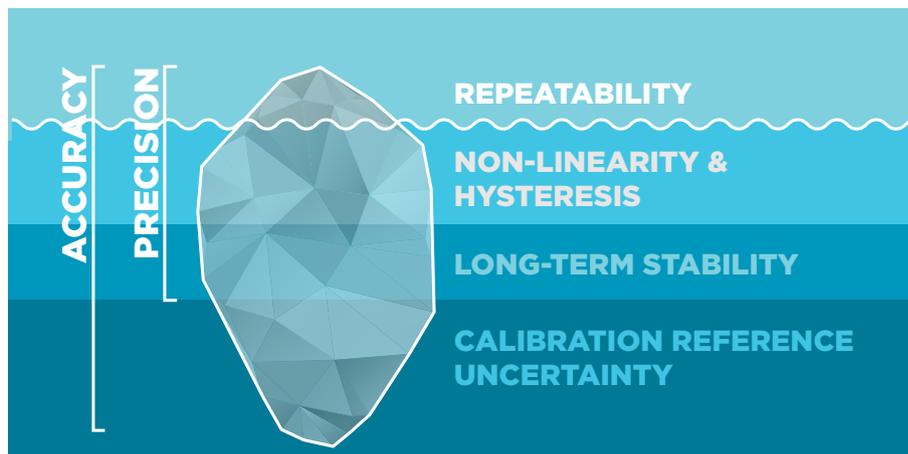


Measurement Glossary

Measurement accuracy:	Closeness of agreement between a measured quantity value and a true quantity value of a measurand.
Measurement precision:	Closeness of agreement between indications or measured quantity values obtained by replicate measurements. Sometimes erroneously used to mean measurement accuracy .
Hysteresis:	A variation in measurement induced by a direction change.
Non-linearity:	A change in measurement sensitivity with regards to the magnitude of the measurand.
Calibration:	The comparison of a measurement value against a reference or calibration standard.
Calibration uncertainty:	The cumulative sum of measurement uncertainty for the calibration reference along the traceability path from the used calibration reference (working standard) up to the top-level reference (primary standard).
Adjustment:	The adjustment of the transfer function against a calibration standard. Adjustment at more than two points along the dynamic range indicates poor linearity of the measurement device.
Metrological traceability:	Property of a measurement result whereby the result can be related to a reference through a documented, unbroken chain of calibrations , each contributing to the measurement uncertainty.
Sensitivity:	A relation between the indication of an instrument and the corresponding change in a value of a quantity being measured.
Selectivity:	Independence of a measurement system for changes in other factors than the measurand (environmental variables, chemicals etc).
Resolution:	The smallest change in measured quantity that causes perceptible change in measurement indication. In electronic instruments, the resolution may be affected by analog output stage resolution and scaling.
Stability:	Property of a measuring instrument, whereby its metrological properties remain constant over time.

For more information on metrology, read the blog

["Understanding Measurement Performance and Specifications"](#)





WATCH

Webinars & Video



**Vaporized H₂O₂
Bio-decontamination
in Isolators and Transfer
Hatches**

Watch the webinar

**Room Bio-
decontamination with
Vaporized Hydrogen
Peroxide**

Watch the webinar



Developing the Product

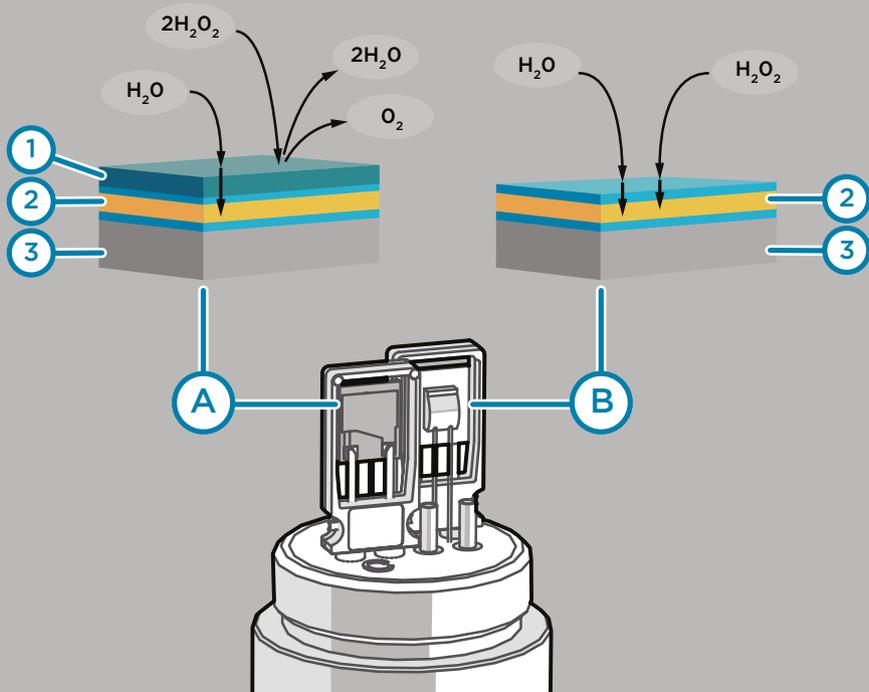
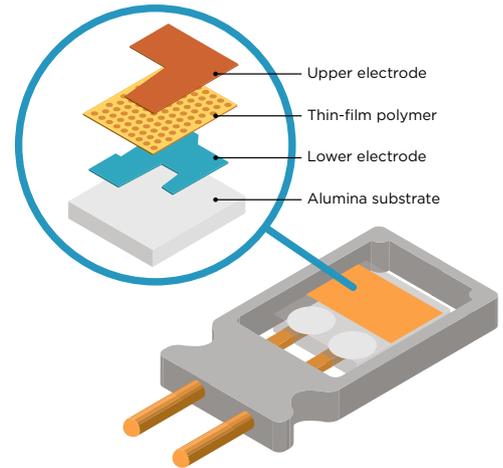
Watch the video





PEROXCAP technology

Vaisala PEROXCAP is an innovation for measuring vaporized hydrogen peroxide, temperature, relative saturation and relative humidity. This unique technology enables accurate and repeatable measurement of the bio-decontamination cycle with one single probe.





Instruments

Validate vaporized hydrogen peroxide bio-decontamination the easy way with the below instruments.



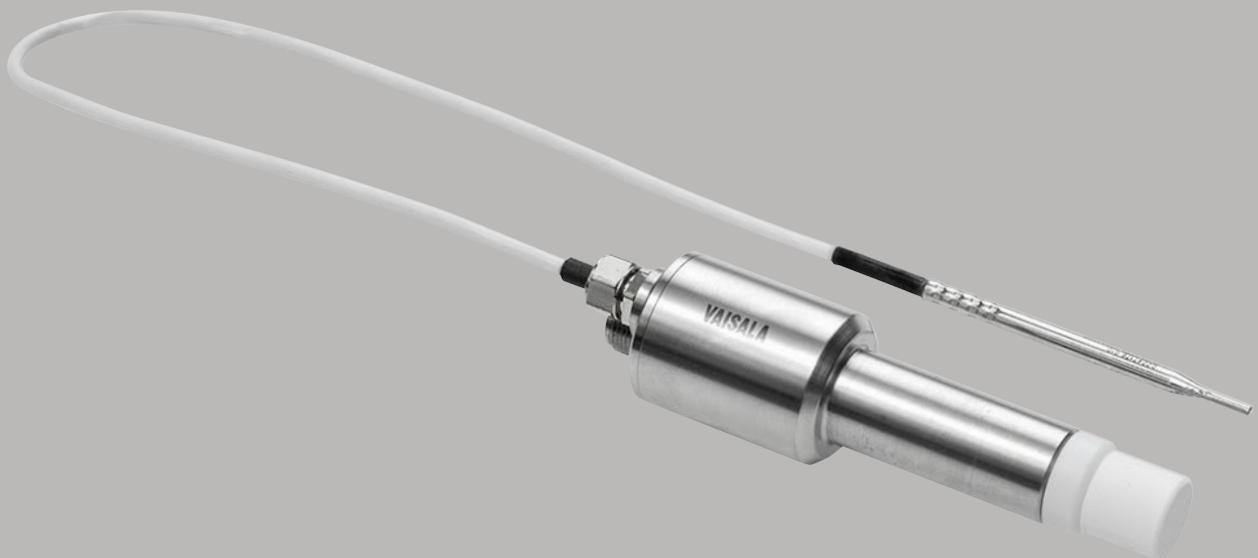
Vaisala Indigo Transmitter

for easy evaluation and visualization of data



Indigo Compatible PEROXCAP HPP270

with 3-in-1 measurement (H₂O₂, humidity & temperature)

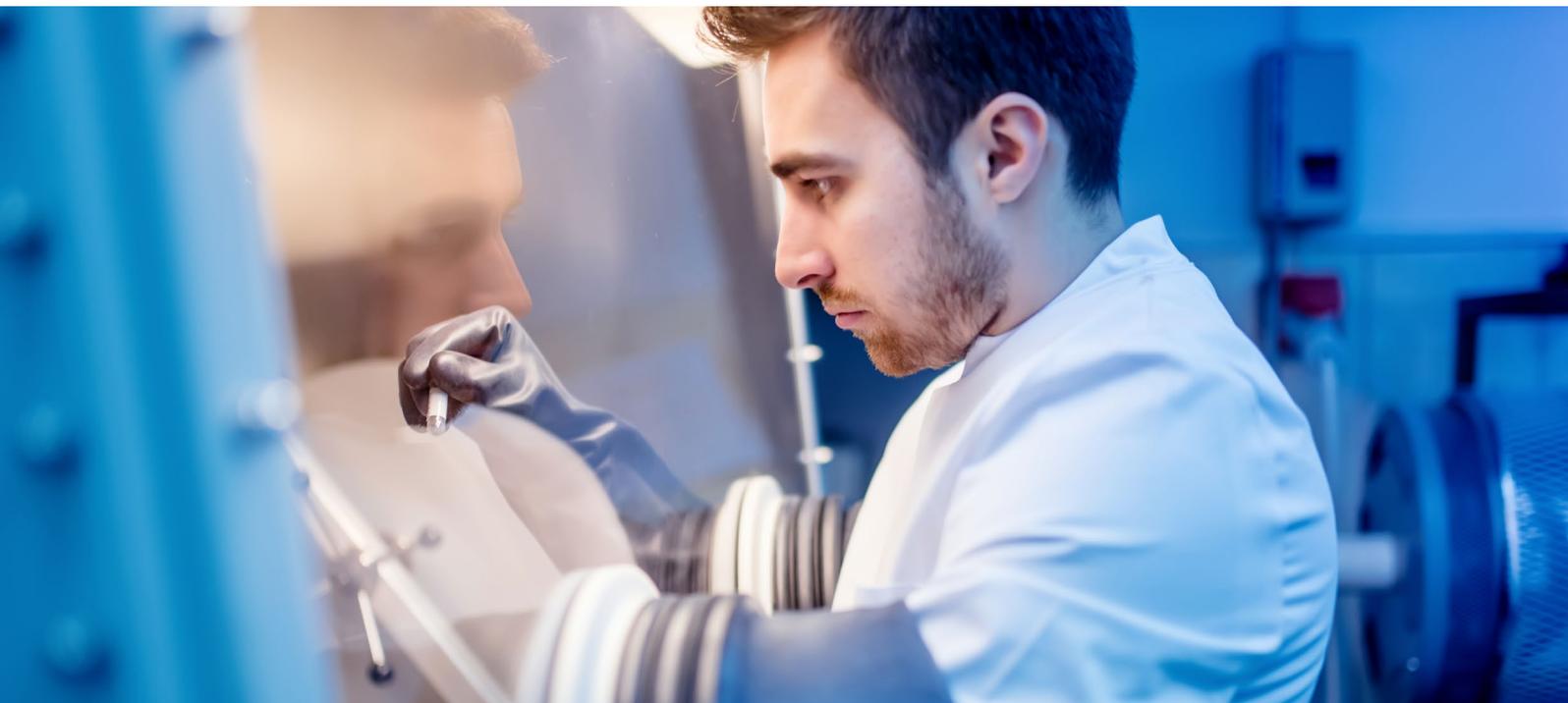




Vaporized Hydrogen Peroxide Bio-Decontamination in Isolators, cRABS, and Transfer Hatches

Isolator cycle development is dependent on reliable measurements. When performing isolator bio-decontamination cycle development studies and also after validation, in routine use, accurate, stable, and repeatable measurement values for H₂O₂ ppm content, humidity, temperature and time of exposure are crucial.

[READ MORE](#)





Improving Room Bio-Decontamination with Accurate and Stable Measurement of Vaporized Hydrogen Peroxide

Hydrogen peroxide in vapor form is becoming increasingly popular in bio-decontamination processes. Vaporized H_2O_2 is proven to be a better alternative to formaldehyde, which is considered a carcinogen by the World Health Organization.

[READ MORE](#)





Vaisala in Other Applications

Vaisala's sensor technology is often used when reliability cannot be compromised. Although hydrogen peroxide is not a relevant parameter around Mona Lisa, the PEROXCAP technology is based on the same core technology that helps preserve the Mona Lisa. Vaisala ensures the stability of the humidity and temperature environment with stable instruments that Louvre Museum counts on.

[READ MORE](#)





Vaisala in Space

Why is Vaisala technology utilized in space exploration? Our technology is extremely stable and this is vital due to the extreme environmental conditions that are experienced in space. Vaisala sensors are able to withstand extreme heat and cold and are highly tolerant of shaking and vibration. It is this high level of stability that ensures they can deliver accurate readings of the real changes even on other planets.

[READ MORE](#)





At Your Service

Vaisala brings Best-In-Class value to our customers every day. To ensure we continue to understand your needs, we take customer feedback seriously and cater to your specific requests. Our premium manufacturing facility ensures that the instruments we offer meet your most demanding requirements in a wide variety of applications.

The Vaisala experience includes also calibration, maintenance and adjustment with care. Vaisala calibration customers end up with an accurate-as-new product, a certification to prove it and peace of mind. Our Calibration and Premium Care Agreements make it easy for you to take care of your high-quality instruments for years to come.

[READ MORE](#)



“Our sales and engineering team is extremely **skilled** and **experienced** and is **always available** to help our customers with optimal solutions for their business needs.”

*Gerry Ducharme,
AMER Controlled
Environment Group*



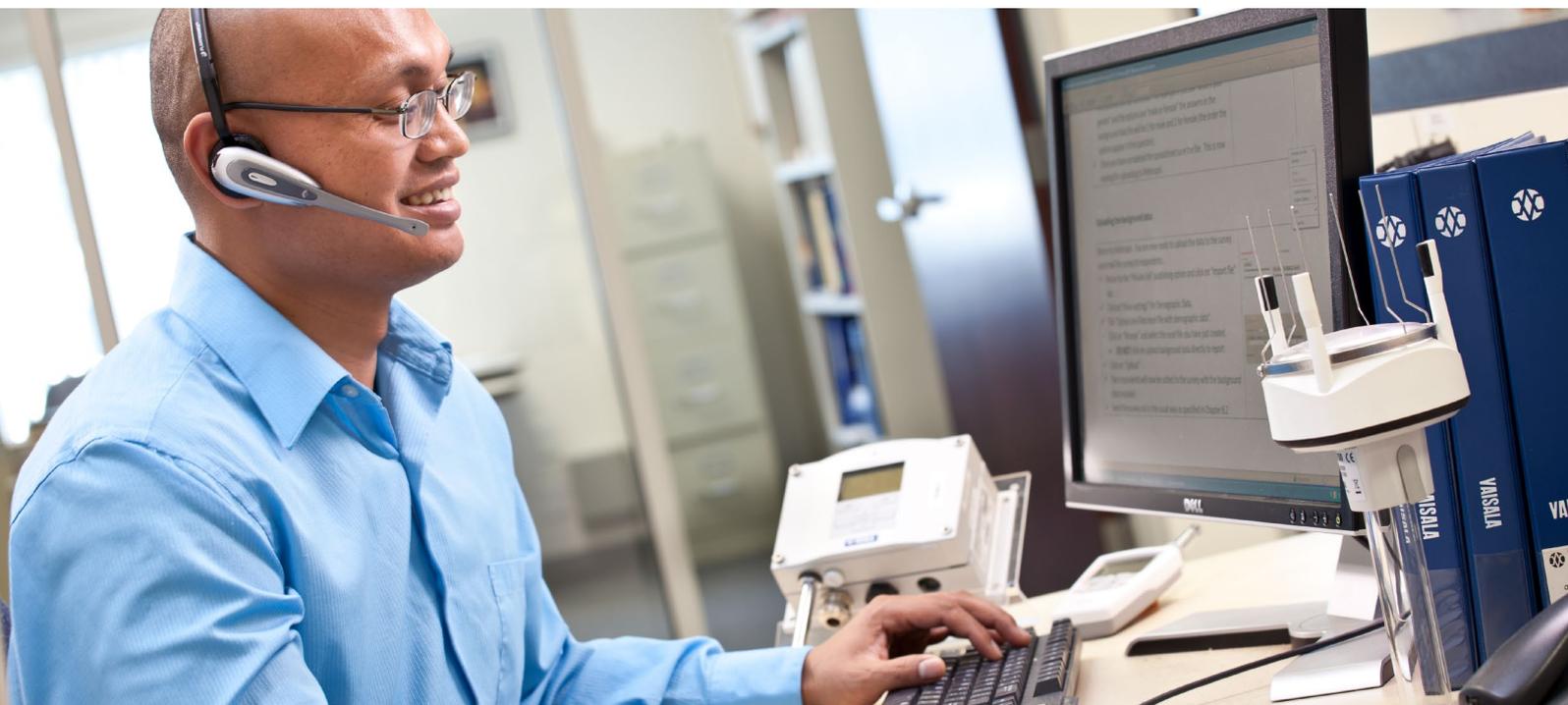
INQUIRE

Inquire

Our team brings to our customers 100+ years of combined mechanical, chemical, electrical and computer engineering experience.

Vaisala engineers are on hand to assist you with your product or application questions.

[CONTACT VAISALA](#)





Smart Measurements for Smart Industries

VAISALA

Please contact us at
www.vaisala.com/requestinfo

www.vaisala.com



Scan the code for
more information

Ref. B211710EN-A ©Vaisala 2018
This material is subject to copyright protection, with all
copyrights retained by Vaisala and its individual partners. All
rights reserved. Any logos and/or product names are
trademarks of Vaisala or its individual partners. The
reproduction, transfer, distribution or storage of information
contained in this brochure in any form without the prior written
consent of Vaisala is strictly prohibited. All specifications —
technical included — are subject to change without notice.