

VISUALISE CORROSIVE GASES BEFORE DAMAGE BECOMES IRREVERSIBLE



Clean air solutions

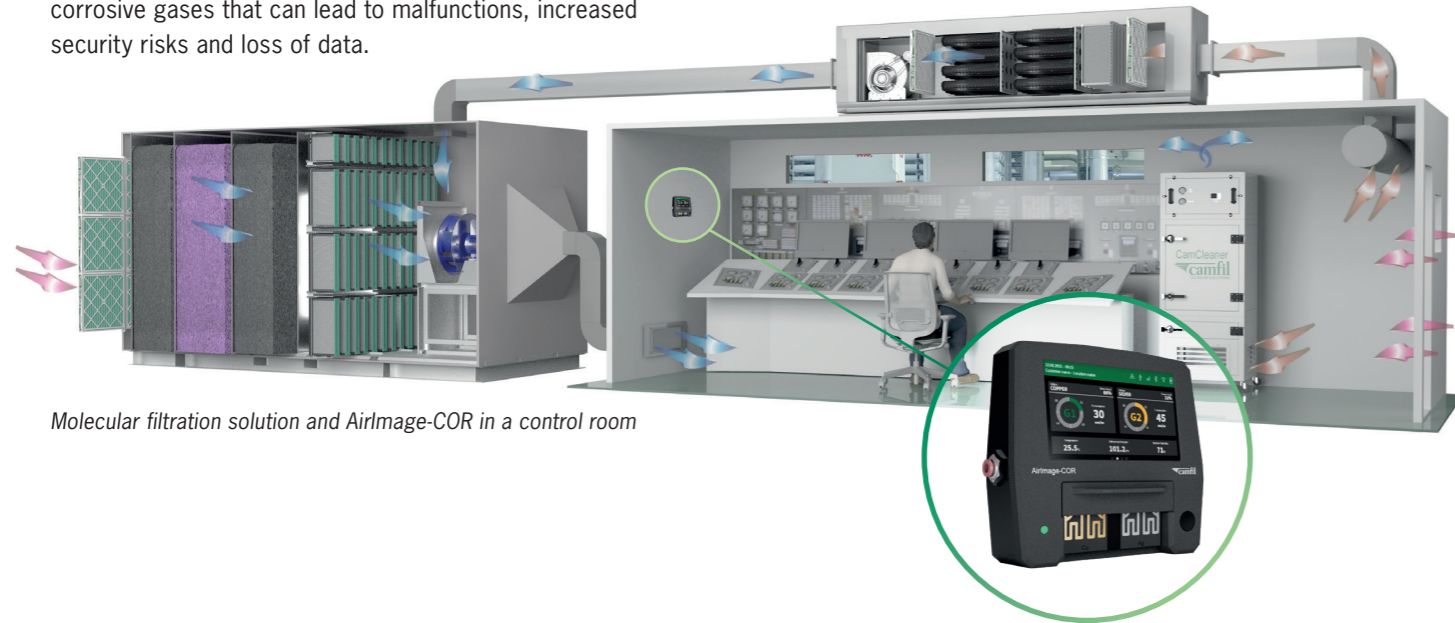
Consequences of air corrosion

Industrial facilities like petrochemical refineries, pulp and paper mills, waste water treatment facilities, and renewable energy plants have become completely reliant on automation processes to improve safety and reliability. These automation processes contain sensitive electronic components critical to the operation of these facilities. Corrosive gases can corrode the electrical equipment leading to unscheduled downtime, costly repairs, loss of revenue, and increased safety risks.

Increased dependence on automation has also increased the demand for data centers. Uninterrupted storage and communication of important information is critical for data transfer facilities. From small server rooms to large data centers the electrical components are susceptible to corrosive gases that can lead to malfunctions, increased security risks and loss of data.

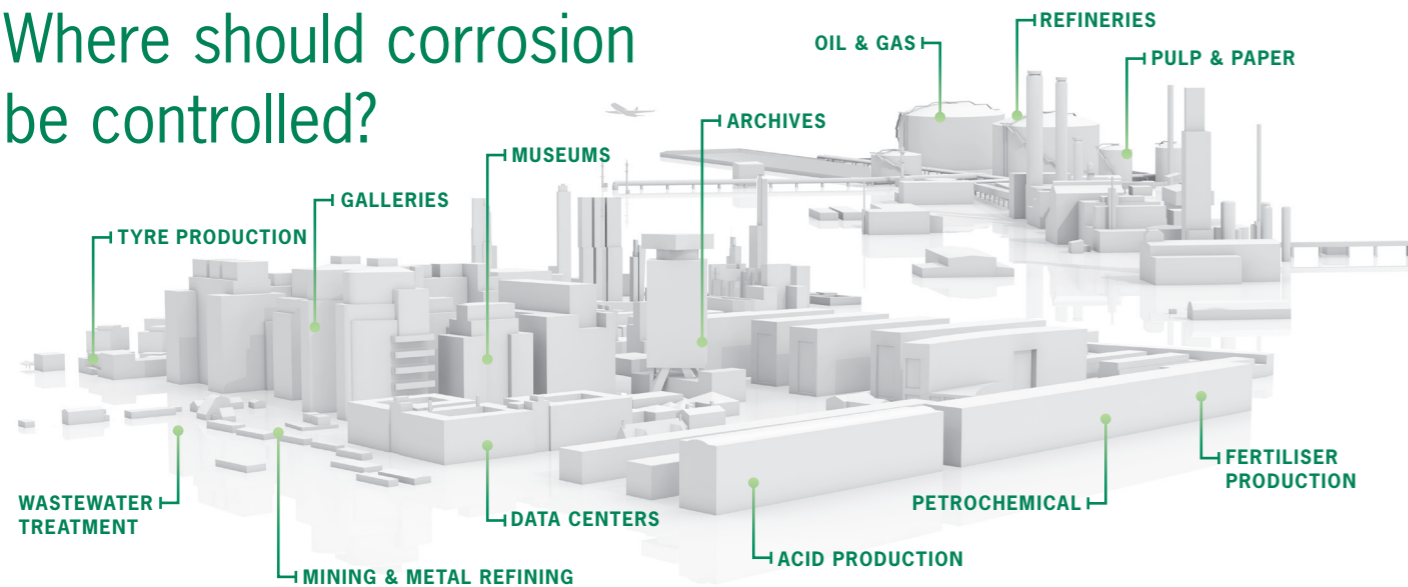
The impact of corrosion extends beyond electronics. Collections in museums and archives have no backup. They are extremely sensitive to corrosion due to the presence of acidic gases. Gas concentrations in such buildings may be low, however long term exposure can have the same effect as short term exposure to higher concentrations leading to expensive restorations or irreversible damage.

Monitoring the corrosivity of air makes it easier to assess the indoor air quality of a critical space and determine the need for control measures against corrosive gases.



Molecular filtration solution and AirImage-COR in a control room

Where should corrosion be controlled?



Corrosion classification per ANSI/ISA-71.04-2013

ISA CLASSIFICATION OF REACTIVE ENVIRONMENTS (ANSI/ISA 71.04-2013)				
	An environment sufficiently well controlled such that corrosion is not a factor in determining equipment reliability.	An environment in which the effects of corrosion are measurable and may be a factor in determining equipment reliability.	An environment in which there is a high possibility that corrosive attack will occur. These harsh levels should prompt further evaluation resulting in environmental controls.	An environment in which only specially designed and packaged equipment would be expected to survive.
Severity level	G1 (Mild)	G2 (Moderate)	G3 (Harsh)	GX (Severe)
Copper reactivity level*	<300	<1000	<2000	≤2000
Silver reactivity level*	<200	<1000	<2000	≤2000

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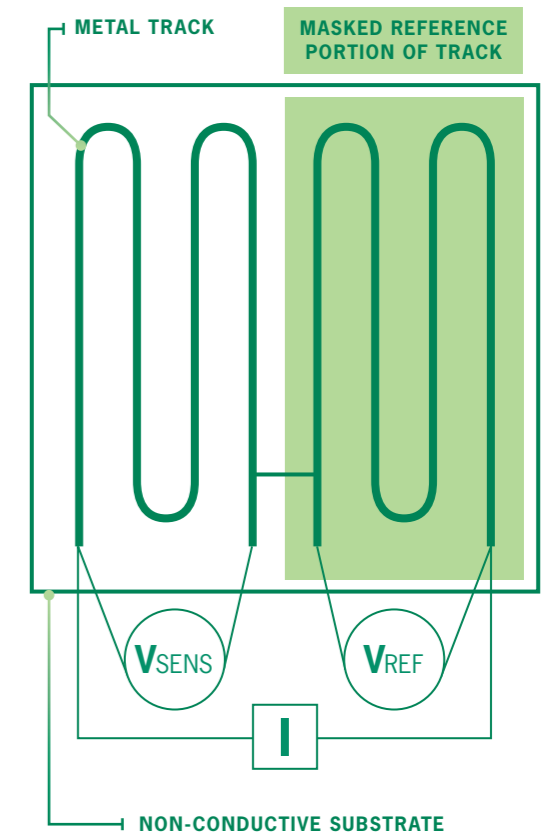
Accurate and reliable measurement technology

Monitoring corrosion requires accuracy and reliability and the AirImage-COR delivers both with its Electrical Resistance (ER) sensors.

Research carried out at the French Corrosion institute¹⁾ determined that ER is adapted for use under various corrosivity conditions and when compared to the mass increase method with quartz crystal microbalance (QCM), ER sensors are not directly affected by particles, water films, etc., and are then considered most suitable for general use.

AirImage-COR measures and registers the change over time in the ER of a thin metal track applied on an insulating substrate. If the metal corrodes, the cross sectional area of the track decreases and the ER increases.

The changes in ER can be directly translated into corrosion depth and corrosion rate. The AirImage-COR ER sensors have been qualified in a corrosion chamber by injecting corrosive gases at different G class conditions. The most accurate sensors have been selected based on the study of number of sensors with different non-conductive substrates and metal track deposition technologies.



¹⁾ French Corrosion Institute, Article: On-line corrosion monitoring of indoor Atmospheres, L. Sjogren and N. Lebozec

The most user-friendly corrosion monitor

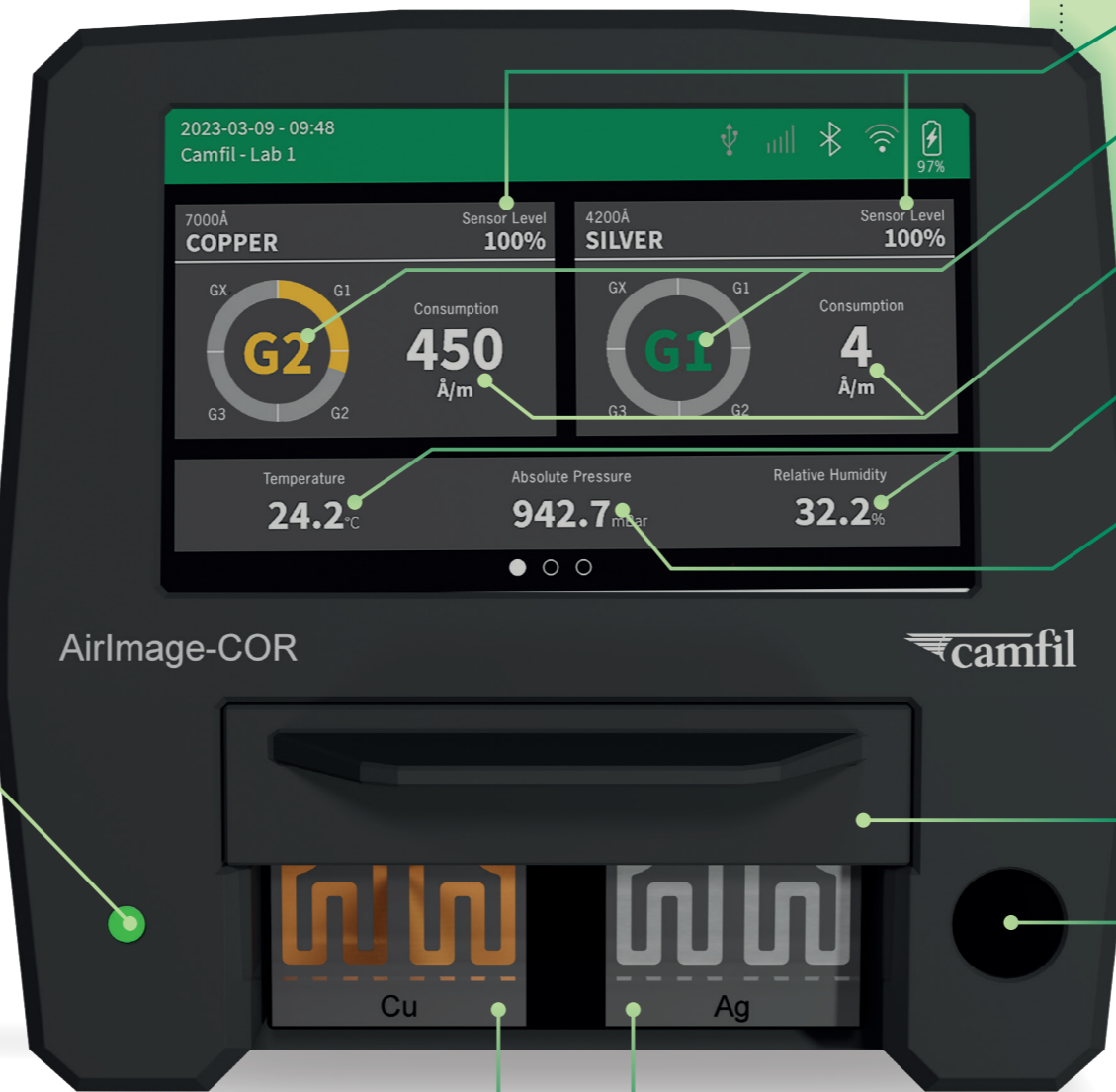
The AirImage-COR is an out-of-the-box solution to accurately monitor corrosion, temperature, relative humidity, and pressure (absolute or differential).

- Instant corrosion readings at your fingertips
- Most accurate sensors engineered for real-time corrosion monitoring
- Plug & Play, calibration in-situ
- Full suite of connectivity options to Building Management Systems
- Customisable notifications by email and SMS
- Manage device remotely with the Progressive Web Application (PWA)

CONNECTOR FOR TUBE TO OUTSIDE/ADJACENT ROOM
For different pressure measurement

LED
High corrosion and event notification

5" TOUCH SCREEN DISPLAY



COPPER SENSOR

SILVER SENSOR

SENSOR BRIDGE

POWER BUTTON

REMAINING SENSOR LIFE

Inform customer to change the sensor

CORROSION CLASSIFICATION

According to ANSI/ISA 71.04-2013

CORROSION RATE

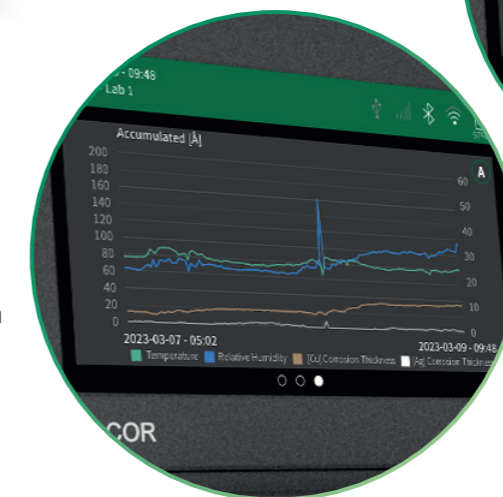
in $\text{Å}^2/\text{month}$

CORROSION IMPACT PARAMETER

Room temperature & Relative Humidity

ROOM PRESSURE/LEAKAGE CONTROL

Room pressure or differential pressure



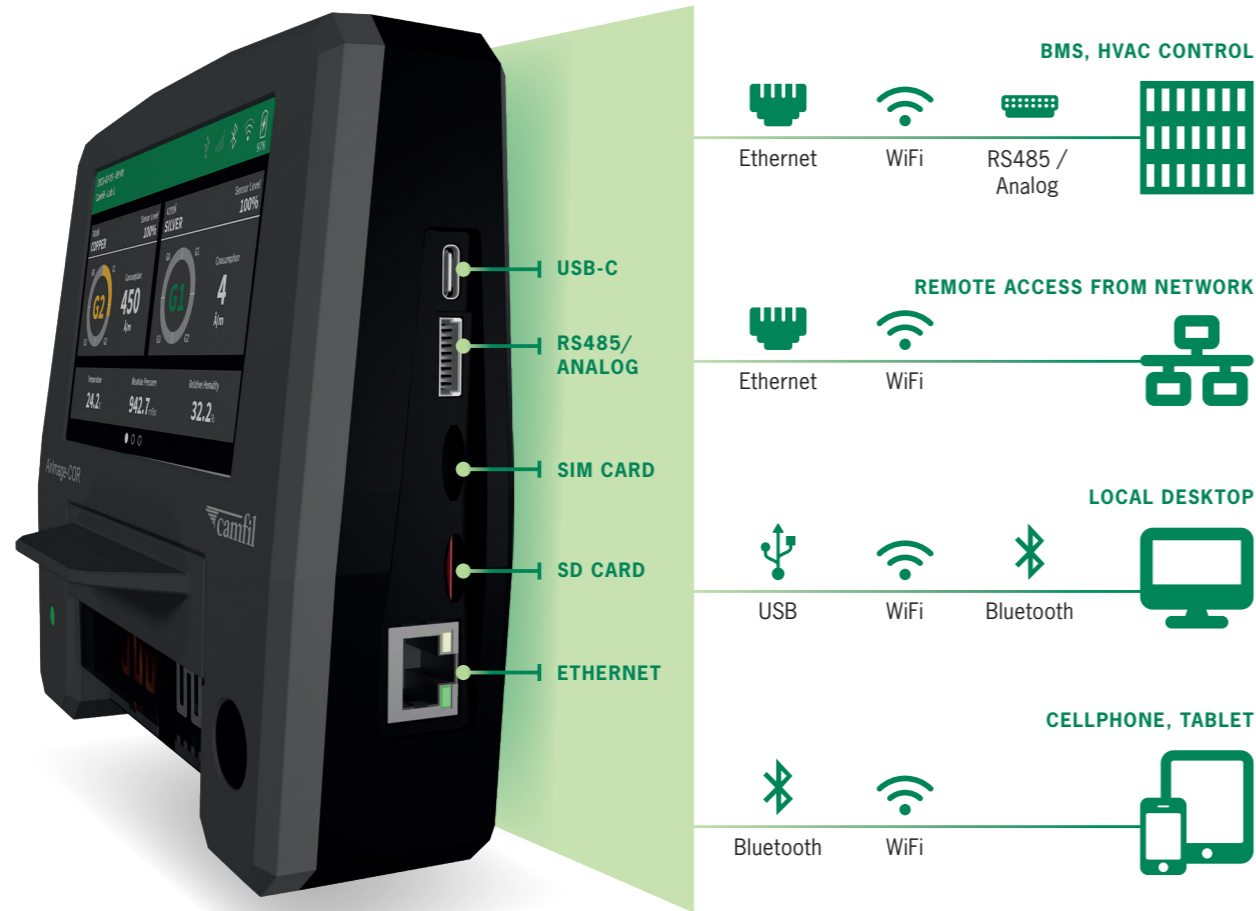
Accumulated corrosion product build up graph



Corrosion classification graph

Simple data access and transfer

Full suite of connectivity options.



Progressive Web Application (PWA) Simple setup and management

The Progressive Web Application (PWA) uses modern web technologies to deliver an app-like experience to users. The PWA is easy to install and provides a user-friendly experience for device set-up and management.

AirImage-COR PWA is available on multiple platforms and devices, including desktops, tablets and mobile devices. This can work with any browser and is downloaded in the computer and smart devices by a simple click.



Specifications and settings

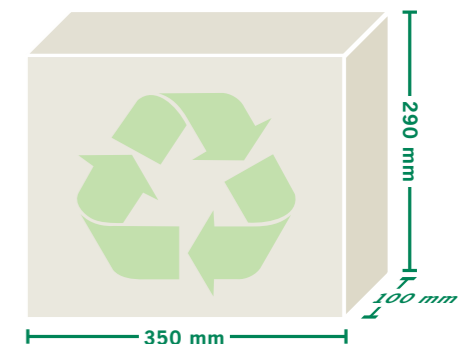
SYSTEM	
Display	5" touch screen with LED notification
Dimensions	165 x 145 x 45 mm
Weight	510 g
Power supply	USB C: 5V, 10W, 2A, mini requirement 1.5A
Battery	Lithium Ion accumulator, able to log data for 30 days with one charge of the battery @ measurement interval of 30 mins
MONITORING SPECIFICATIONS	
Air corrosivity with Cu and Ag sensors	Corrosion classification in accordance with ISA 71.04-2013
	Corrosion rate: Å/month
	Accuracy / resolution of corrosion depth (0 to 30°C): <0.3% / <0.01% of sensor thickness
Temperature	0 to 40°C ±1.5°C
Relative humidity	0 to 95% ±4.5%
Absolute pressure	500mbar to 1100mbar ± 20mbar
Differential pressure	-125Pa to 125Pa ± 0.08Pa
COMMUNICATION INTERFACE	
Wired Connectivity	USB, Analog outputs 4-20 mA, RS485, Ethernet
Wireless Connectivity	WiFi, Bluetooth
PERSONALISED SETTINGS	
Language	English, Chinese, French, German, Italian, Portuguese, Spanish, Swedish, Finnish, Danish, Norwegian, Dutch
Units	Metric and imperial
Data logging interval	From 1 min
Pressure display	Absolute or differential
Alarms and notifications	Via SMS and/or email based on threshold values

Packaging, storage and disposal

PACKAGING: AirImage-COR reader and components are packed in a convenient plastic carrying case. Packaging dimensions and weight: 350x290x100mm; 1500g.

STORAGE CONDITIONS: AirImage-COR device should be stored in a segregated, clean and dry location at temperature from -20°C to 60°C.

DISPOSAL: AirImage-COR contains a lithium ion battery and disposal shall comply with site-specific, local and national regulations.



Camfil – a global leader in air filters and clean air solutions.

For more than half a century, Camfil has been helping people breathe cleaner air. As a leading manufacturer of premium clean air solutions, we provide commercial and industrial systems for air filtration and air pollution control that improve worker and equipment productivity, minimise energy use, and benefit human health and the environment.

We firmly believe that the best solutions for our customers are the best solutions for our planet, too. That's why every step of the way – from design to delivery and across the product life cycle – we consider the impact of what we do on people and on the world around us. Through a fresh approach to problem-solving, innovative design, precise process control and a strong customer focus we aim to conserve more, use less and find better ways – so we can all breathe easier.

The Camfil Group is headquartered in Stockholm, Sweden, and has 30 manufacturing sites, six R&D centers, local sales offices in 35+ countries, and about 5,600 employees and growing. We proudly serve and support customers in a wide variety of industries and in communities across the world. To discover how Camfil can help you to protect people, processes and the environment, visit us at www.camfil.com.

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