



“Protecting” the HMS Protector: The Analox ACG+ In Action

HMS Protector is the Royal Navy’s only Ice Patrol Ship. She calls the freezing waters of Antarctica and the Southern Hemisphere home and is at sea up to 330 days a year.

Last year, the HMS Protector underwent an extensive overhaul program. Installing the most-recent version of the Analox ACG+ gas monitoring system was part of that process. The HMS Protector returned to service in early 2021.





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During a recent stopover in Teesport, Middlesbrough, Analox were able to get on board the HMS Protector and speak to some of the experienced crew members.

With multiple compressors on-board for SCBA (self-contained breathing apparatus) and CABA (compressed air breathing apparatus) operations, there is an obvious need for reliable, consistent monitoring of the breathing gasses the sailors utilize. Sailor A said: the ACG+ delivers, monitoring five different gasses simultaneously.

“Certainly, convenience is a huge advantage of the ACG+,” he explains. “The colorimetric tube kits we used previously allow for human error. The ACG+ gives (more accurate) digital readings.” Colorimetric testing is done with test tubes and can be quite cumbersome according to some military safety officers.

“There is always a real struggle to get glass colorimetric tubes, which means that ships have to stay alongside because they can’t get the tests done (quickly enough),” Sailor A said. He observed that a large number of vessels still use colorimetric tube testing. “We have seen many issues with these and frankly, the Analox kit is better.”

The HMS Protector isn't the only vessel to have seen the benefits of the ACG+. "We've been using the ACG+ for the last 10 years, originally on the HMS Atherstone (a mine-sweeping vessel decommissioned in 2017). The ACG+ was the only product that meets DEF STAN 68-284 and was suitable for our needs."

DEF-STAN 68-284, updated in 2020, specifies the requirements for Compressed Breathing Gases procured or produced for Aircraft, Diving and Marine Life-Support applications. It includes high-pressure compressed natural breathing air supplies produced for diving, fire-fighting and emergency escape applications on board HM Ships and Submarines; and high and low pressure dedicated natural breathing air supplies for compression chambers.

As the only current gas analysis system to meet DEF-STAN 68-284, the Analox ACG+ is uniquely positioned in the military instrumentation market. Not only does the system eliminate the need for colorimetric testing and subjective results, but the ACG+ also makes random spot checks a thing of the past.



Sailor A said the vessel utilizes all five gas monitoring variables the ACG+ measures. This includes O₂, CO₂, CO, VOC and Dew Point. Of those measurements, when asked which was most important, he was emphatic, - “Dew Point.” While CO₂ contamination is the most dangerous form of breathing air contamination, water vapor contamination is far more common. Water vapor contamination can also interfere with instrument calibration and cause inaccurate readings.

A strong advocate for Analox and the company’s product line, Sailor A concluded, **“By having an ACG+ onboard we only need to perform one annual test and calibration. Analox knows their products and what we need onboard.”**



You can call us

UK/Global: +44 (0) 1642 711 400

US Office: (714) 891 4478

US Toll Free: (877) 723 3247

You can email us

info@analoxgroup.com

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analoxgroup.com

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