



Industry advisory: MSC.581(110)

The New Standard for Enclosed Space Safety

Dräger

Technology for Life



The IMO has significantly raised the bar for maritime safety. Resolution MSC.581(110), effective as of December 3, 2025, officially supersedes and revokes the A.1050(27). This is not merely a procedural update; it is a fundamental shift towards a proactive, risk-based safety culture designed to address the ongoing risks of oxygen-deficient, toxic and flammable atmospheres to reduce fatalities during enclosed space entry.

1 What has significantly changed?

The transition from A.1050(27) to MSC.581(110) strengthens hazard identification, risk assessment, entry authorization and emergency preparedness.

- **The CO₂ Mandate:** For the first time, Carbon Dioxide (CO₂) is explicitly classified as a primary hazard. Recent incidents have shown that carbon dioxide (CO₂) is a silent killer in confined spaces – capable of causing rapid unconsciousness and death.
- **Enclosed Space Register is mandatory:** Companies must establish a ship-specific register cataloging every enclosed space, its connected areas, and its specific hazard profile based on cargo types.
- **Expanded Scope:** The definition of hazardous areas now includes “Connected Spaces” (any space linked to a source space) and addresses “Trapped Hazardous Atmospheres” – pockets of gas that linger even after ventilation.
- **Prohibition of Single-Person Entry:** To ensure immediate rescue capability, entering an enclosed space alone is now strictly prohibited.

2 Resolution Details & Consequences for Shipping Companies

Compliance is now pursuing a more comprehensive and structured approach to enclosed space entry.

- **The “Competent Person” Requirement:** Atmospheric testing and risk assessments must be conducted by a “competent person” with documented theoretical and practical training.
- **From Permit System to continuous monitoring:** Entering enclosed spaces is only allowed after atmospheric testing, written permit and continuous personal air monitoring.
- **Strict Entry Criteria:** Entry is only permitted when stable readings show:
 - **Oxygen (O₂):** ≥ 20.9%
 - **Carbon Dioxide (CO₂):** < 0.5% (5,000 ppm)
 - **Flammable Gases (LEL):** < 1% LEL
 - **Toxic Gases:** < 50% of the Occupational Exposure Limit (OEL)
- **Equipment Mandates:** All ships must carry at least **two sets** of gas detection equipment. Vessels carrying high-risk cargoes (e.g., coal, wood pellets, metal sulfide concentrates) require at least **four sets**.

3 Dräger: Your Solution Provider

Meeting the stringent requirements of MSC.581(110) requires more than just a detector; it requires a reliable ecosystem.

ST-1659-2007



Dräger X-am 5000: Robust Multi-Gas Detection

A powerhouse for up to 5 gases, the X-am 5000 is built for the harshest marine environments.

- **Why it's best:** It features fully compliance with the new IMO resolution with the cost effective combination of a catalytic bead and electrochemical CO₂ sensor.

D-23635-2009



Dräger X-am 5600: The reliable CO₂ Specialist

The X-am 5600 is the industry's smallest 1-to-6 gas detector.

- **Why it's best:** Dräger's IR sensor measures simultaneously CO₂ and LEL for gases and vapors with industry leading and certified performance. It is immune to "sensor poisoning", has a fast warm-up time and boasts a >5 years service life – reducing your Total Cost of Ownership (TCO).

D-47797-2012



Dräger X-dock: Automated Compliance

Documentation is now a regulatory cornerstone. With the X-dock it has never been easier.

- **Why it's best:** The X-dock automates the entire testing and calibration process, generates the according certificates and manages your assets - so you can focus on your core business. Thereby it eases training, ensures constant compliance with the guidelines and reduces gas consumption paying for itself through operational savings.

D-11857-2016



Dräger X-am Pump: Upgrade your diffusion detector for clearance measurements

Combined with the X-am 5000/5600, it allows for safe pre-entry measurements from up to 45 meters away.

- **Why it's best:** Change fast and easily from personal air monitoring to pumped clearance measurements.

D-24010-2020



Dräger X-am 8000: The Confined Space Specialist

The 1-to-7 gas detector X-am 8000 makes clearance measurements easy and convenient.

- **Why it's best:** The X-am 8000 combines an integrated pump with a wide sensor portfolio and specially developed assistant functions that guide you through each process step by step.

D-35437-2015



Dräger CC-Vision: Semi-automated Compliance

Software assistance to let your devices stay compliant.

- **Why it's best:** CC-Vision allows a guided assistance to perform manual tests and calibrations and creates the according documentation automatically.

Dräger Training: Empowering your Crew

With web-based training courses, knowledge is available wherever you are.

- **Why it's best:** With Dräger training, your crew is not only compliant - they are confident and ready to act safely in any situation.

The Bottom Line

By integrating Dräger's X-am detectors, testing and calibrations solutions combined with comprehensive trainings, you aren't just meeting the new regulation, you are deploying a life-saving system that empowers your crew to return home safely.

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