



Annulus Vent Gas Monitoring

Reduce your flexible riser costs with AMOS™

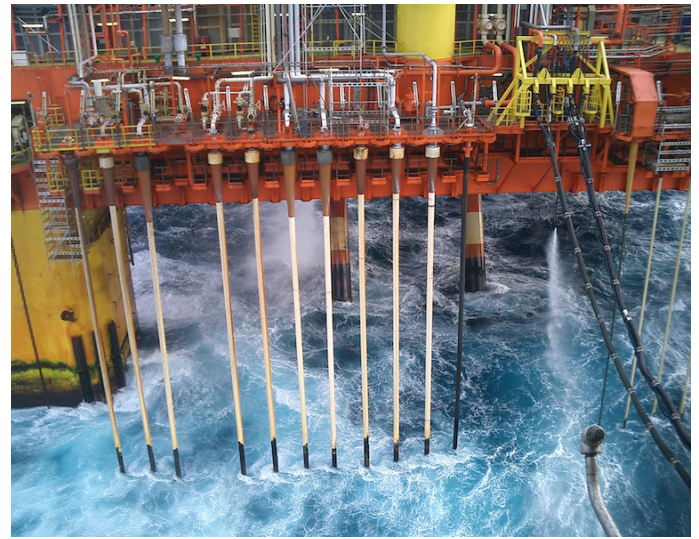
AMOS™ provides safe and cost-effective operation of flexible risers. The system monitors the riser annulus permeation rate, detecting early signs of riser failure, reducing risk and averting potential costly replacement of risers.

The results are safe operations, improved decision making as well as reduced cost.

4Subsea offers products, services, and software related to flexible pipes, umbilicals, and ancillaries used for subsea operations, including **Integrity Management on 4insight®**, **Annulus Vent Gas Monitoring (AMOS™)**, **Portable Annulus Tester (PAT™)**, **Repair Clamps (EPIC™)**, **ValveTrack™**, and **FlexShare™**. We also specialise in **Advanced Engineering** and **Research** for flexible pipes.

KEY BENEFITS

- Reduces risk of production downtime
- Provides early warning in case of anomalies
- Performs free annulus volume measurements
- Provides real-time condition monitoring of riser
- Integrates to central control room
- Ensures installation without operational downtime
- Includes simple to use touch-screen interface
- Gives access to the 4Subsea experts' extensive experience and knowledge base
- Can be tailored to meet customer specifications

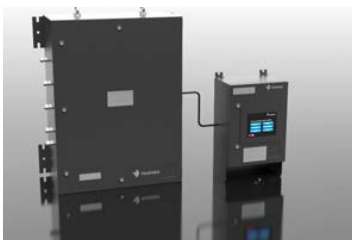


AMOS™ ANNULUS VENT GAS MONITORING

AMOS™ is a continuous annulus monitoring system for new and existing (retrofit) flexible risers. It uses a patent pending method to detect failures such as outer sheath damages and blocked ventilation ports early on, hence preventing costly replacements, shutdowns and accidents. AMOS™ also provides the option of automated annulus free volume testing as well as automated nitrogen annulus testing. 4Subsea has installed multiple AMOS™ units for major oil and gas operators since the system became commercially available, and is currently monitoring more than 100 risers worldwide.

APPLICATION OF AMOS™

- Failure mode detection
- Life extension studies
- Operational data reviews
- Integrity evaluations
- Annulus test reports
- Ventilation port capacity tests
- Post-installation testing
- Risk-mitigating actions



[More product information](#) →

FEATURES AND SPECIFICATIONS

System:

- Minimum system accuracy: $\pm 10\%$
- Flow capacity: 0 - 300 Ndm³/hr, depending on configuration
- Normal operating pressure: 0.5 barg
- Module based for easy expansion
- Off-the-shelf components
- Tailored to meet client specification and requirements

Instrument Module:

- For use in Ex Zone 1, T3/T4, IIC
- Stainless steel enclosure (SS316)
- Component environmental protection rating: IP65/66
- Operating temperature: $-10^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$
- Certification by 3rd party for ATEX, IECEx or INMETRO
- Mechanical relief valve
- Dimensions, typical: 800x1100x300

Control Module:

- For use in Ex Zone 2, T4, IIC
- Stainless steel (SS316) or glass reinforced plastic enclosure
- Environmental protection rating: IP66
- Operating temperature: $-20^{\circ}\text{C} \leq T_a \leq +40^{\circ}\text{C}$
- Easy to use interface with 12" HMI touch screen
- Storage capacity for several years of data sampling
- Can be fully integrated in platform control system

Nitrogen Module:

- Stainless steel enclosure (SS316)
- Two-stage regulator
- High-, medium and low pressure gauges
- Mechanical relief valve

4Subsea is a leading provider of technology and services that help operators optimise energy production from subsea oil & gas fields and offshore wind farms. We combine domain expertise with data analytics and digital services to maximise lifetime of assets, reduce operational cost and optimise future projects through data-driven design.

The company was established in 2007 and clients include the major energy operators as well as the large suppliers of subsea equipment. 4Subsea is headquartered in Asker, Norway with additional offices in Bergen, Kristiansand, Stavanger, Rio de Janeiro, Kraków and Aberdeen. 4Subsea is a company in the Subsea 7 Group.

4Subsea - Share ideas, move forward

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