

STAMI UREA

ADVANCE™ MONITOR

LEAK DETECTION MONITORING SYSTEM

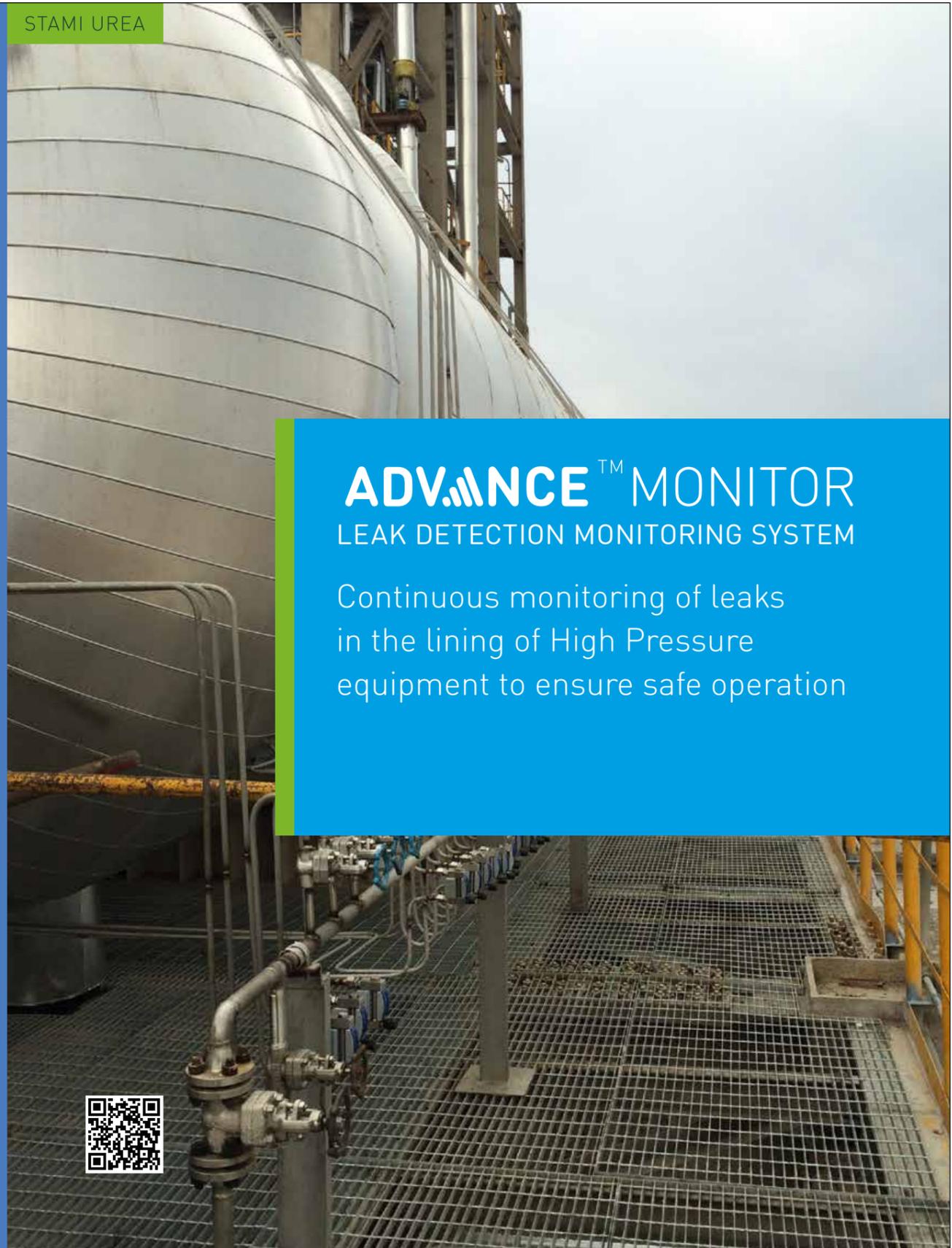
Continuous monitoring of leaks
in the lining of High Pressure
equipment to ensure safe operation

Stamicarbon B.V.
Mercator 3 - 6135 KW Sittard,
The Netherlands.
P.O. Box 53 - 6160 AB Geleen,
The Netherlands.

Tel. +31 46 4237000
Fax. +31 46 4237001

communication@stamicarbon.com
www.stamicarbon.com

The innovation & license company
of Maire Tecnimont.



ADVANCE™ MONITOR

LEAK DETECTION MONITORING SYSTEM

The challenge

To ensure safe operation of High Pressure equipment in urea plants and to have a reliable Leak Detection Monitoring System suitable for a timely detection of a liner leakage to prevent serious safety, health, environmental and economical damages.

Stamicarbon's solution

Stamicarbon's ADVANCE MONITOR™ Leak Detection Monitoring System for both new and existing High Pressure equipment.

Additional services to ensure reliable operations for new and existing leak detection systems can be offered by Stamicarbon:

- inspection
- evaluation
- training
- commissioning assistance

Benefits

- It continuously monitors the tightness of the lining and activates an alarm when a leak is detected
- The response time of the system is less than 60 minutes
- The estimated size of the leak can be calculated*
- The location of the leak can be identified
- Blockages or leakages of leak detection tubing can be identified*
- It accurately detects and measures ammonia in the ppm range
- Several pieces of high pressure equipment can be connected to one Leak Detection Monitoring System
- No drift nor aging of ammonia analyzer
- Explosion proof version (optional)

*applicable to pressurized type Leak Detection Monitoring System

How the system works

Depending on the specific application, one or two systems can be implemented, depending on the specifics of the equipment either one is favored:

1) Pressurized type Leak Detection Monitoring System

Ideal for loose liner constructions with passageways in the carbon steel pressure bearing part.

Principle of the pressurized leak detection system

Instrument air is supplied via a pressure reducer and a flow meter. This air flows through the passageways of the compartments between the liner and the carbon steel pressure vessel wall. A pressure safety valve prevents the pressure in the Leak Detection Monitoring System of exceeding the maximum system pressure, which might cause buckling of the liner. The piping of each liner compartment ends in an equipment header. The air is then fed into a gas sensor which analyzes the ammonia level continuously.

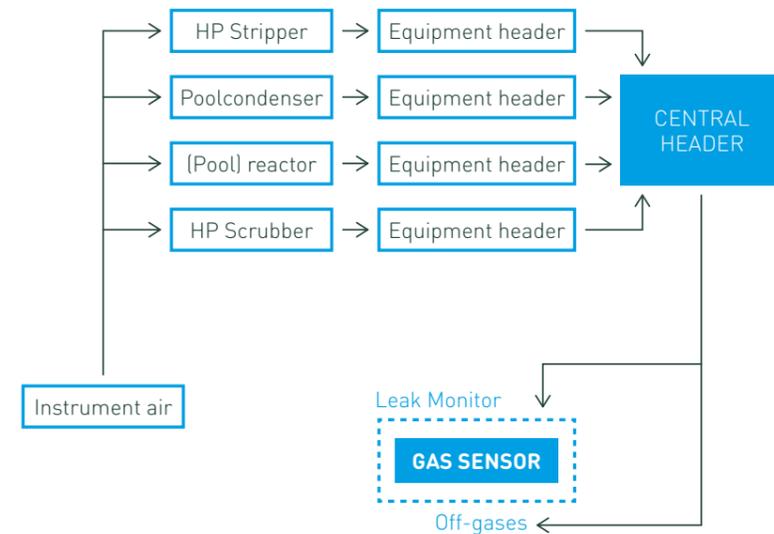
Locating leaks

The leak flow rate in the identified compartment can be calculated based on the ammonia concentration measured.

2) Vacuum type leak detection system

The leak detection system consists of a number of tubes connecting the liner compartments to an equipment header. A constant under pressure will be maintained in the leak detection system by a vacuum pump. The discharge of this vacuum pump is connected to the ammonia analyzer.

1) Schematic overview of a pressurized type Leak Detection Monitoring System



2) Schematic overview of a vacuum type Leak Detection Monitoring System

