

## EcoServe – Leakage Testing

### Trust is good, but testing is safer

Naturally you want to prevent any production downtime. But regardless of quality even a plate heat exchanger is subjected to peripheral influences. Hydraulic shocks, changes in temperature, corrosion, etc. can cause microscopic leakages or lead to material fatigue on the brink of rupturing.

Booster pumps can be used to create positive pressure gradients, but don't prevent media mixing caused by turbulence when microcracks are present. The damage caused to the plant is often compounded, particularly in the foodstuffs industry, by expensive product liability litigation.

The safest solution is the preventative and evidencing pressure testing method by GEA EcoServe for all brands of plate and shell-and-tube heat exchangers.

We use this method to identify leakages and any imminent plate ruptures caused by material fatigue in good time. Testing is done using the hydrogen method with a test gas of nitrogen and hydrogen comprising 10% hydrogen (H<sub>2</sub>) and 90% nitrogen (N<sub>2</sub>). Thanks to its property as the smallest molecule with the highest molecular velocity the test gas guarantees the highest physico-technical leakage detection. Quality standards such as IFS and HACCP in the foodstuff production industry are met.

This ensures that you prevent damage to products and equipment efficiently. You can't get much safer than that.

The service specialists from GEA EcoServe are available to you throughout the world. Feel free to contact us.



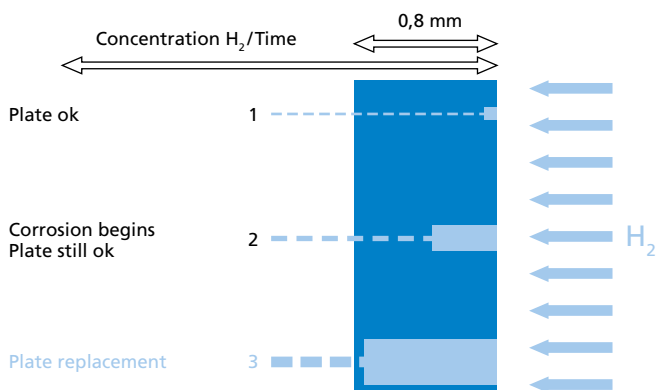
## Hydrogen method

The hydrogen method is based on a test gas (inert gas comprising 10% H<sub>2</sub> and 90% N<sub>2</sub>), which can be used for both leakage detection and for tightness testing.

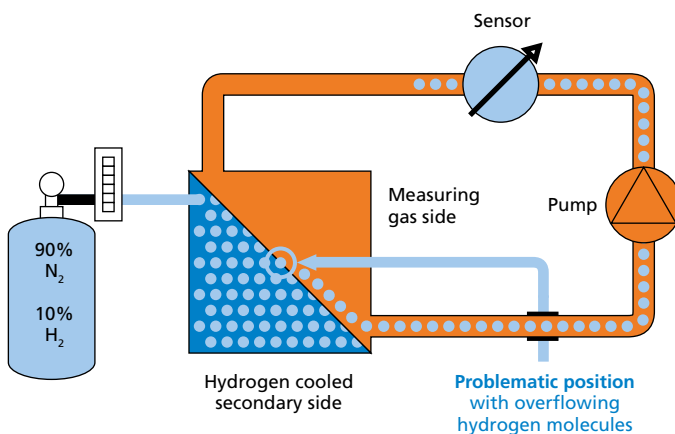
## Hydrogen and safety:

Hydrogen in the correct concentration is completely harmless (ISO 101569). In fact hydrogen/nitrogen mixtures are also used in protective gas atmospheres.

## Early detection of material fatigue



## Schematic representation of the H<sub>2</sub> method



## GEA PHE Systems – Competence in Heat Transfer

With emphasis on the highest quality standards and constant innovations, GEA PHE Systems continues to expand its market position: Within the GEA Process Equipment Division, GEA Ecoflex together with GEA ViEX, GEA WTT, GEA Ecobraze, GEA PHE Systems NA and GEA EcoServe forms GEA PHE Systems, the Center of Competence and Service Center for gasketed, fully welded and brazed plate heat exchangers of GEA Group:

- HVAC
- Refrigeration
- Sugar
- Chemical
- Paper
- Food
- Power
- Marine
- General Industry
- Renewable Energy

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