

## Anion Exchange Membrane Electrolyzer test setup – experimental work

<b>Client</b>	Entrance
<b>Related project</b>	Release
<b>Start date</b>	September 2026
<b>Suitable for training course</b>	Mechanical engineering, chemical engineering, EMRE master
<b>Bachelor or Master</b>	Bachelor

Hydrogen is considered to be one of the most prominent energy carrier of the future. If it is produced with renewable energy, its carbon footprint stays minimal. Electrolysis of water is one of the hydrogen production methods that is being intensively investigated. While the core of electrolysis technology is more than 100 years old, the need to run an electrolyzer with highly intermittent renewable electricity brings extra challenges.

In the last phase of the Release project, when the scientific results of the partners could be applied and tested under real and (semi)industrial conditions, Hanze began with the design and building of a AEM-stack test-setup. The goal is to build a test-setup that would be used to test AEM-stacks from the academic and/or industrial consortium partners.

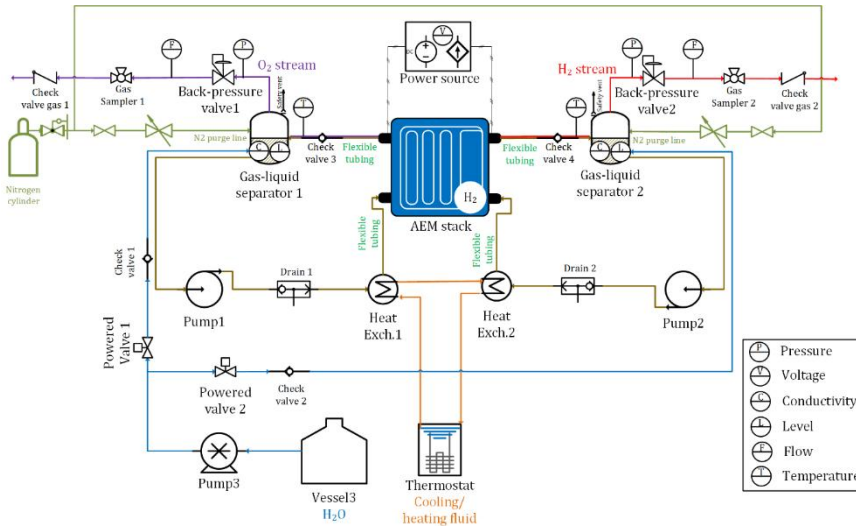
### Assignment

The assembly of the experimental setup should be carried out and the first tests to be performed. It is a commissioning-like work with unexpected issues to be solved.

### Problem definition

The test setup will be used to test new AEM (Anion Exchange Membrane) electrolyzer cells or stacks, to study the efficiency of various electrocatalysts used in water electrolysis under more realistic/industrial circumstances or to test the degradation rate of cell assemblies. The electrolyte often is 5 M KOH solution. The choice of the setup components is important, to make sure that the corrosive electrolyte would not damage them. A test of the testing-setup and its components is part of the assignment.

Accepting the challenges of this assignment, you will become an expert in the technical details of water electrolysis with some hands on experience on the technology.



## General information

<b>Final Product</b>	Report
<b>Location</b>	Groningen, Entrance/Zernikelaan 17
<b>Stakeholders (researchers &amp; companies)</b>	Lectorate sustainable gases and fuels
<b>Contact person</b>	Andras Perl {a.perl@pl.hanze.nl}
<b>Supervision</b>	Andras Perl {a.perl@pl.hanze.nl}
<b>Details</b>	

## What are we and where can you find us?

Entrance is a learning knowledge community, in which students and teacher researchers from various programs work together with researchers, companies, governments and civil society organizations to accelerate the energy transition.

Entrance is the place where, as a student, you work together with lecturers, researchers, businesses, governments and/or civil society organizations on complex issues. We do this at the following locations:

- Location Proeftuin, Zernikelaan 17
- Location Energy Academy Europe, Nijenborgh 6.

## What do we offer?

Entrance offers you a multidisciplinary, inspiring learning, working and research environment in which you can develop the competencies needed to shape and accelerate the energy transition. There is room for collaboration with professors, researchers, lecturers, and the professional field. In addition, you will be supervised by professionals who are part of the EnTranCe Learning Communities (ELC).

## Contact us

Are you interested in vacancy? Do you have questions or would you like to apply directly?

- Jacqueline Josse, Coordinator, Entrance Learning Communities.
- T: (050) 595 4708
- E: [entrancelc@org.hanze.nl](mailto:entrancelc@org.hanze.nl)