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STIESDAL HYDROGEN – HYDROGEN 3.1 MW TEST CAMPAIGN IN MÅDE

Characterisation Report – Efficiency & Purity

May-September 2026

Client: Stiesdal Hydrogen A/S
Vejlevej 270
7323 Give | Denmark

Contractor: Fraunhofer Institute for Wind Energy Systems
Am Seedeich 45
27572 Bremerhaven | Germany

Authors: Kevin Schalk | kevin.schalk@iwes.fraunhofer.de
Arne Goymann | arne.goymann@iwes.fraunhofer.de
Jannes Vervoort | jannes.vervoort@iwes.fraunhofer.de
Simon Kühner | simon.kuehner@iwes.fraunhofer.de

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1 Introduction

1.1 Background of the test campaign

Stiesdal Hydrogen A/S is developing the Stiesdal Hydrogen - HydroGen 3.1 MW alkaline electrolyser, designed for efficient hydrogen production under pressure. For purposes of validation of this system Stiesdal Hydrogen A/S has tasked the Fraunhofer Institute for Wind Energy Systems (IWES) to perform and evaluate their system, which has been installed at their customer's site near Esbjerg in Denmark, according to state-of-the-art testing protocols.

The focus of this validation campaign is characterisation of general operating properties, check of specifications, determination of the performance under different loads and hydrogen purity. Due to a lack of a uniform international standardisation, the performed tests were based on the system tests of the JRC harmonised protocol for electrolyser testing [1]. The tests were slightly modified to reflect the campaign conditions and individual setup requirements.

The applied test protocols have been already further developed in a Joint Industrial Project led by DNV, under major participation of IWES and in cooperation with 25 industrial partners. Currently IWES is involved and leading the development of the international standardisation in this regard on ISO level. The applied methods play a central role in that development and have a very high likelihood to be reflected in the next iteration of international standardisation, giving the results of the campaign a lasting meaning.

1.2 Content of this report

The characterization reports outline the results of the evaluation and analysis of the Stiesdal Hydrogen - HydroGen 3.1 MW alkaline electrolyser test campaign.

This document focuses on the efficiency of the system, the hydrogen production rate and the purity of the produced hydrogen. This includes determination of impurities such as water, nitrogen and oxygen in the product stream.

The installation and preparation of this measurement campaign took place in start of May 2026. The measurements were conducted remotely at selected dates between May and September 2026, subject to availability of the commercially operating electrolyser. For the report, we have selected the datasets that are most representative and of the best quality. Details about the individual sensors, equipment used, general setup, testing methods and the results synthesis are written in the accompanying annex document to keep a concise and easily readable results-oriented document.

Separate reports cover characterisation of the dynamic performance and measurement of the system consumables (other than power). In the framework of that analysis, the parameters Minimum- and Maximum-Power are determined and used as part of the analysis in this document.

1.3 About Fraunhofer IWES

The Fraunhofer Institute for Wind Energy Systems IWES conducts application-oriented research for a sustainable future. Wind energy is the backbone of our energy supply – as renewable electricity or in the form of hydrogen – and is based on highly developed plant technology, which is also the result of a large number of innovative research projects at Fraunhofer IWES – from the planning process, development, construction and operation, to the monitoring of the plants, repair processes, service life, and the dismantling and recycling of all components.

The Fraunhofer IWES has built up an innovative test infrastructure for testing and validating wind turbines and electrolyzers. It supports industry in developing new products and systems and continuously optimizes the validation methodology. More than 400 employees in science and administration at nine locations are developing innovative methods to accelerate the expansion of wind energy and hydrogen economy, minimize risks, and increase cost efficiency.

1.4 Nomenclature

The terminology of this report seeks to follow common terminology and testing protocols for low temperature water electrolysis [1], [2] wherever practicable. The table below lists the terms and symbols used in the report.

Abbreviations are given as used in the report where the report defines one.

Term	Abbreviation	Definition
		System, equipment and components
Device under test	DUT	Device subject to a test; in this report the Stiesdal Hydrogen - HydroGen 3.1 MW alkaline electrolyser system installed in Måde, Denmark.
Electrolyser	–	Electrochemical device that converts water/steam to hydrogen and oxygen by the electrolysis reaction.
Alkaline water electrolyser	AWE	Water electrolyser using an alkaline solution as electrolyte.
Stack	–	Assembly of two or more electrochemical cells, separators, manifolds and supporting structure, including cooling plates where applicable.
Number of cells in the stack	N	Number of electrochemical cells connected in series in the stack; used to convert measured stack voltage into cell voltage.
Auxiliary system	AUX	Equipment necessary for operation of the system (pumps, valves, heaters, controls, sensors), excluding the stack itself. Often termed balance of stack (BoS).
(AC/DC) Converter	–	Power-electronic device rectifying alternating current into direct current for the stack (and inverting where applicable).

Term	Abbreviation	Definition
		Test execution and operating points
Test run / Experiment	–	One continuous measurement sequence covering the load range on a given date (Test run 1–3 in this report).
Load	P/P_{nom}	Electrical loading of the DUT, expressed as a percentage of the nominal rated power (3.1 MW = 100%).
Load step	–	Discrete, stabilised operating point at which the measurements of one test run are recorded.
Step up / step down	–	Direction in which the load steps were traversed within a test run (towards higher or lower load).
Characteristic value	–	Value reported for a load step describing the representative behaviour of the DUT. The characteristic values are calculated from the individual test runs, correcting for measurements that do not coincide exactly.
Maximum system power	P_{max}	Highest power at which the system can be operated.
Nominal power	P_{nom}	Power at which the system delivers its rated continuous hydrogen output under normal operation.
Minimum load operation	P_{min}	Minimum partial load at which the system is designed to operate, as a percentage of rated nominal capacity.
		Electrical quantities
Total AC power	P_{sys}	Total electrical power input to the DUT, i.e. the sum of the converter AC power and the auxiliary power consumption. The system boundary is defined to exclude the high-voltage transformer (grid-connection), i.e. the system power excludes any losses on the high-voltage transformer side.
Converter AC power	$P_{CONV,AC}$	AC power measured at the input of the AC/DC converter that supplies the stack.
Converter DC power	$P_{CONV,DC}$	DC power measured at the output of the AC/DC converter that supplies the stack.
Auxiliary power	P_{aux}	Power consumed by the auxiliary equipment / balance of plant.
Stack DC current	I_{DC}	Direct current supplied to the stack.
Current density	j	Stack current divided by the active geometric area of the cell, $j = I / A$.
Stack voltage	U_{stack}	Direct current voltage supplied to the stack.
(Average) cell voltage	U_{cell}	Measured stack voltage divided by the number of cells connected in series in the stack.
U/I curve	–	Plot of average cell voltage against stack DC current over the measured load steps.

Term	Abbreviation	Definition
AC/DC conversion efficiency	$\eta_{AC/DC}$	Efficiency of the AC/DC converter, i.e. DC power delivered to the stack divided by AC power drawn by the converter.
		Product gas flow and composition
Raw hydrogen production rate (as measured)	q_m	Mass flow of the product gas measured directly in the H_2 output stream of the DUT, including the nitrogen, oxygen and water vapour it contains.
Pure hydrogen production rate (corrected for impurities)	$q_{m,H2}$	Product gas mass flow multiplied by the hydrogen mass fraction, i.e. the usable hydrogen produced per unit time.
Impurity	–	Foreign species present in a substance but not intentionally added to or retained by it, e.g. nitrogen, oxygen and water in the hydrogen stream.
Nitrogen content	x_{N2}	Concentration of nitrogen in the H_2 output stream as v/v fraction, assumed constant over the load range and measured to 10 ppm in steady state.
Water content	x_{H2O}	Water vapour concentration in the H_2 output stream as v/v fraction, determined indirectly as the concentration at saturation conditions.
Oxygen content	x_{O2}	Mole percent of oxygen in the H_2 output gas stream, measured on a branch of the main production line.
Hydrogen quality (mole basis)	x_{H2}	Mole fraction of hydrogen in the product gas, obtained as the balance after subtracting the nitrogen, oxygen and water contents.
Hydrogen quality (mass basis)	w/w_{H2}	Mass fraction of hydrogen in the product gas; used to correct the measured product gas mass flow, since nitrogen, oxygen and water are considerably heavier molecules.
		Energy and efficiency
Higher heating value	HHV	Heat of combustion of a fuel measured by returning all combustion products to their original temperature and condensing all water vapour formed; 39.40 kWh/kg = 141.8 MJ/kg for hydrogen.
Lower heating value	LHV	Heat of combustion of a fuel measured with all combustion products remaining in the gaseous state. 33.33 kWh/kg = 120.0 MJ/kg for hydrogen.
Efficiency based on HHV	$\eta^{(HHV)}$	Higher heating value of the hydrogen produced divided by the total electric and thermal power supplied to the system, including auxiliary power. Excluding upstream transformer losses.
Efficiency based on LHV	$\eta^{(LHV)}$	As above, based on the lower heating value of the hydrogen produced. Excluding upstream transformer losses.
Specific energy consumption	SEC	Total energy supplied to the electrolyser system per kilogram of hydrogen produced, in kWh kg^{-1}.

Term	Abbreviation	Definition
Specific hydrogen production rate	SHPR	Hydrogen produced per unit of energy consumed, in kg H_2 kWh^{-1}.
Offtake conditions and consumables		
Offtake conditions	–	Conditions of the hydrogen handed over to the customer at the customer offtake.
Hydrogen output pressure	$p_{H2,out}$	Gas pressure of hydrogen in the customer offtake line, allowing full operation of the electrolyser.
Hydrogen output temperature	$T_{H2,out}$	Temperature of hydrogen in the customer offtake line.
Water consumption		Feed water consumed by the system, per unit time or per kilogram of hydrogen produced.
General and metrological terms		
Standard ambient temperature and pressure	SATP	Standard conditions of 298.15 K (25 °C) and an absolute pressure of 10^5 Pa (1 bar).
Key performance indicator	KPI	Measurable indicator used to express and monitor performance.

2 Electrolyser efficiency

In this chapter, the results of the performed measurement campaign for the determination of the electrolyser efficiency are presented in four different ways:

- HHV efficiency
- LHV efficiency
- Specific energy consumption
- Specific hydrogen production rate

The results are calculated on basis of various parameters and KPIs related to the efficiency of the device under test (DUT). The determination of those parameters e.g. H_2 flow metrics, electrical metrics, impurities, and performance characteristics are presented in later chapters.

As described in the introduction, wherever applicable, the most representative test runs have been selected to determine the performance of the electrolyser. The results are displayed in tables where all the numeric information is laid out and figures, where the data points are shown in relation to each other and most commonly to the respective load steps.

Due to several factors, which were not fully under the operation team's control (e.g. grid-side setup, control loops), the load steps between different test runs don't align fully with each other. All three test runs are therefore reported separately.

The load hold values vary between each measurement repetition. As the load steps of the individual test runs do not coincide, the runs cannot be compared directly at a given load by simple average values. Instead, the characteristic behaviour of the DUT is described via characteristic values.

The characteristic value describes the representative behaviour of the system.

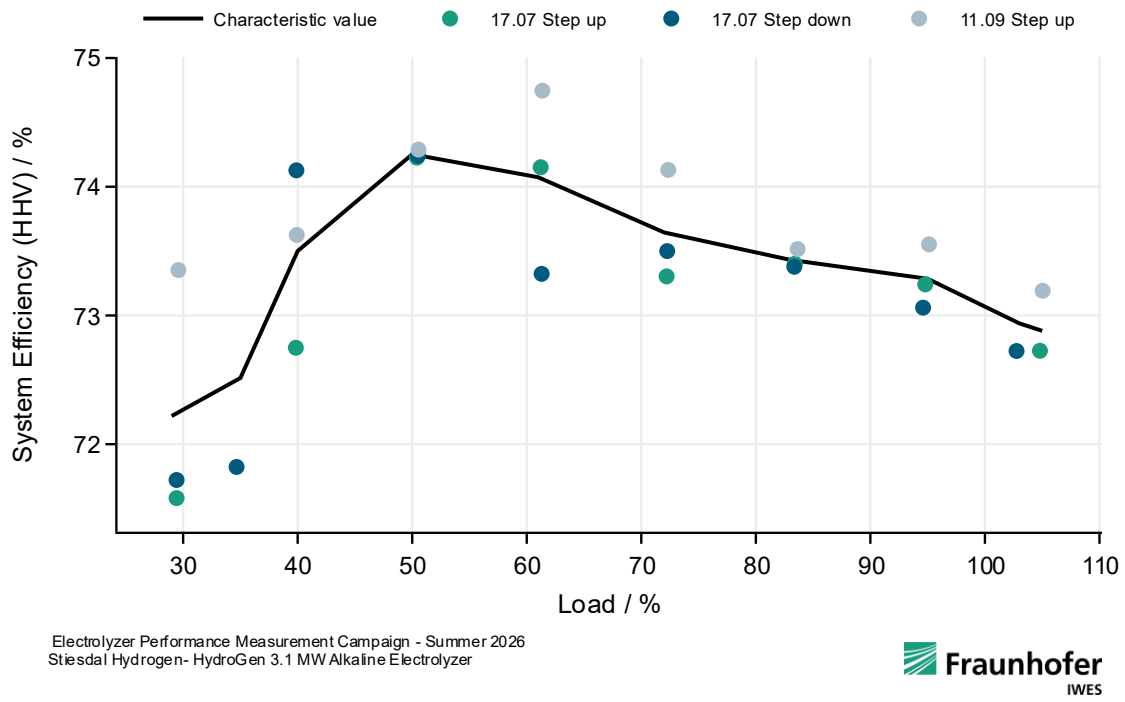
To arrive at the characteristic values, the measured load steps of each test run are first connected by linear interpolations, which yield one continuous curve per test run. Computing the characteristic value can then be done at any load value as the average value of the three interpolated curves at the load in question.

Important note regarding the reference point for system power

System power refers to the total electrical power consumption of the complete system, including auxiliary loads. In the present test campaign, 100% load corresponds to a total system power of 3.1 MW. As several tests were conducted above the nominal operating point, values exceeding 100% represent overload operation relative to this reference.

2.1 Efficiency based on HHV

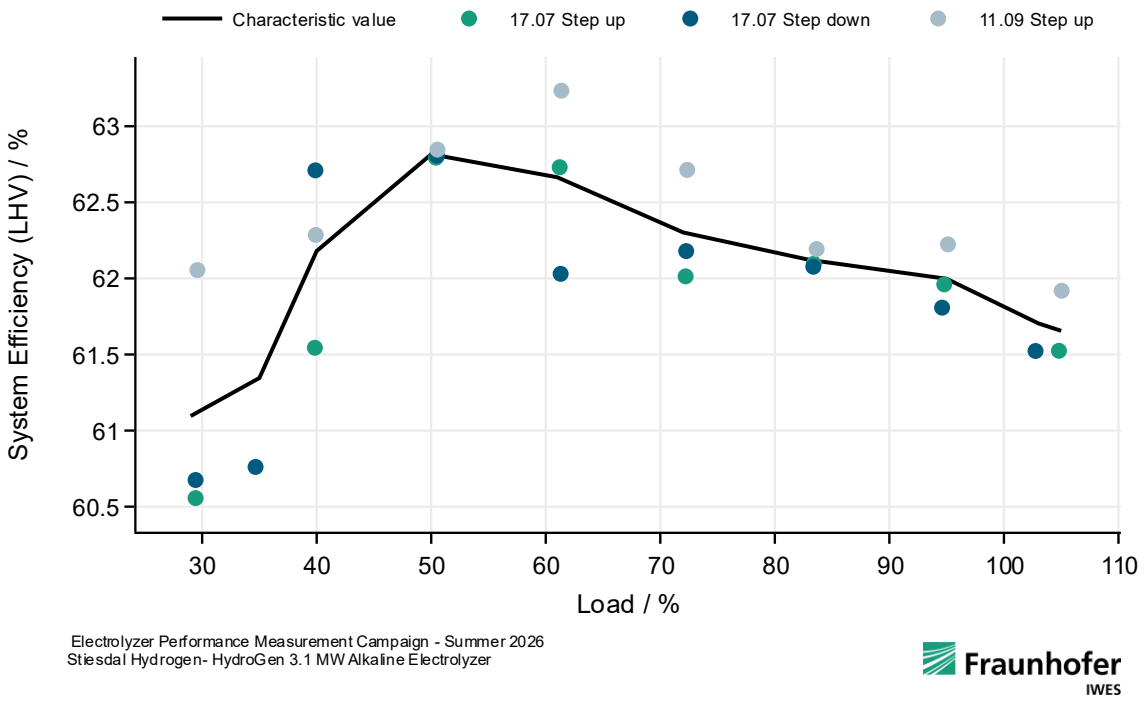
The following presents the results of the efficiency calculations based on the Higher Heating Value (HHV) of hydrogen. The results are shown in the following table and diagram:



	System Efficiency (HHV) %			
Load (%)	**Test run 1 17.07.2026 Step up**	**Test run 2 17.07.2026 Step down**	**Test run 3 11.09.2026 Step up**	**Characteristic value**
105	72.73	-	73.19	72.9
103	-	72.72	-	72.9
100	-	-	-	73.1
95	73.24	73.06	73.55	73.3
83	73.40	73.38	73.52	73.4
72	73.30	73.50	74.13	73.6
61	74.15	73.32	74.75	74.1
50	74.23	74.24	74.29	74.3
40	72.75	74.13	73.63	73.5
35	-	71.82	-	72.5
29	71.58	71.72	73.35	72.2

2.2 Efficiency based on LHV

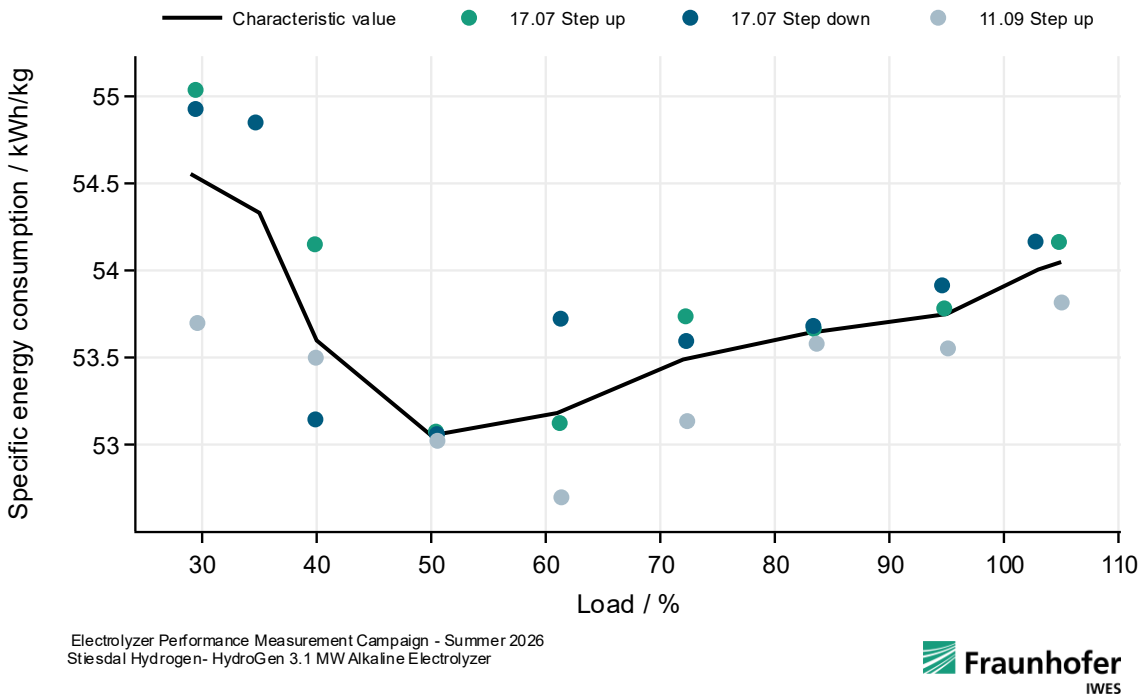
The following presents the results of the efficiency calculations based on the Lower Heating Value (LHV) of hydrogen. The results are shown in the following table and diagram:



	System Efficiency (LHV) %			
Load (%)	**Test run 1 17.07.2026 Step up**	**Test run 2 17.07.2026 Step down**	**Test run 3 11.09.2026 Step up**	**Characteristic value**
105	61.52	-	61.92	61.7
103	-	61.52	-	61.7
100	-	-	-	61.8
95	61.96	61.81	62.22	62.0
83	62.10	62.08	62.19	62.1
72	62.01	62.18	62.71	62.3
61	62.73	62.03	63.23	62.7
50	62.79	62.81	62.85	62.8
40	61.54	62.71	62.29	62.2
35	-	60.76	-	61.3
29	60.56	60.68	62.05	61.1

2.3 Specific energy consumption

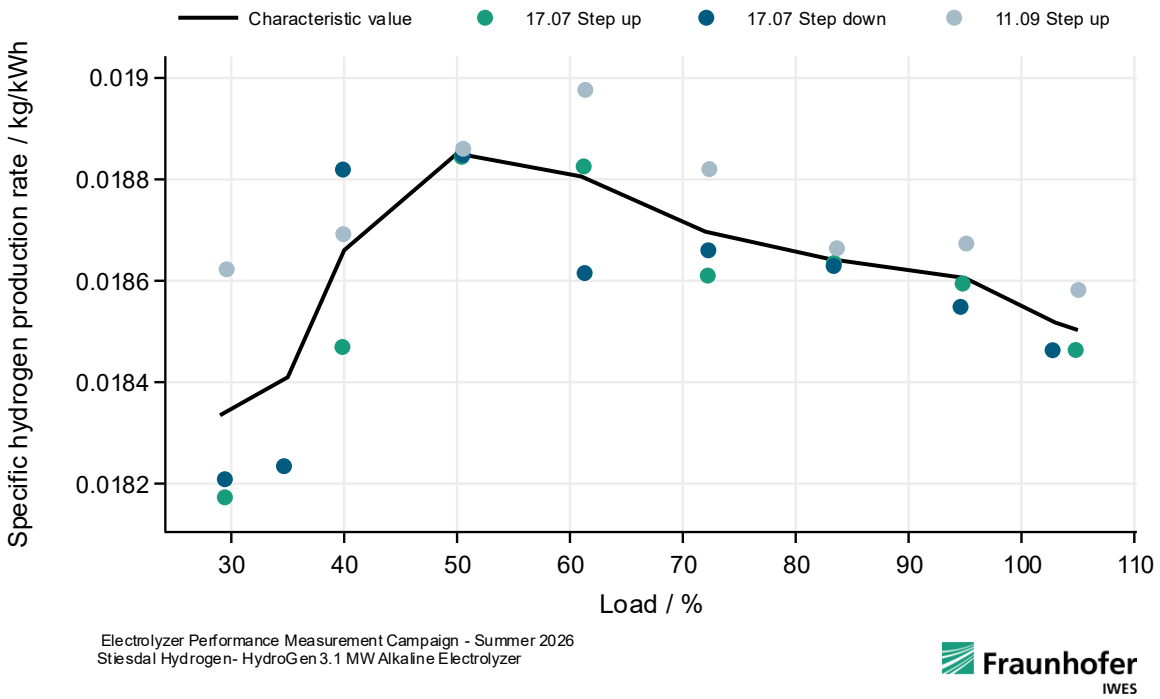
The following presents the results of specific energy consumption (SEC) calculations kilowatt hours consumed per produced kilogram of hydrogen. The results are shown in the following table and diagram:



	Specific energy consumption kWh/kg			
Load (%)	**Test run 1 17.07.2026 Step up**	**Test run 2 17.07.2026 Step down**	**Test run 3 11.09.2026 Step up**	**Characteristic value**
105	54.16	-	53.82	54.0
103	-	54.17	-	54.0
100	-	-	-	53.9
95	53.78	53.91	53.55	53.7
83	53.67	53.68	53.58	53.6
72	53.74	53.59	53.13	53.5
61	53.12	53.72	52.70	53.2
50	53.07	53.06	53.02	53.1
40	54.15	53.14	53.50	53.6
35	-	54.85	-	54.3
29	55.04	54.93	53.70	54.6

2.4 Specific hydrogen production rate

The following presents the results of the specific hydrogen production rate (SHPR) calculations in kg hydrogen per kilowatt hour consumed. The results are shown in the following table and diagram:

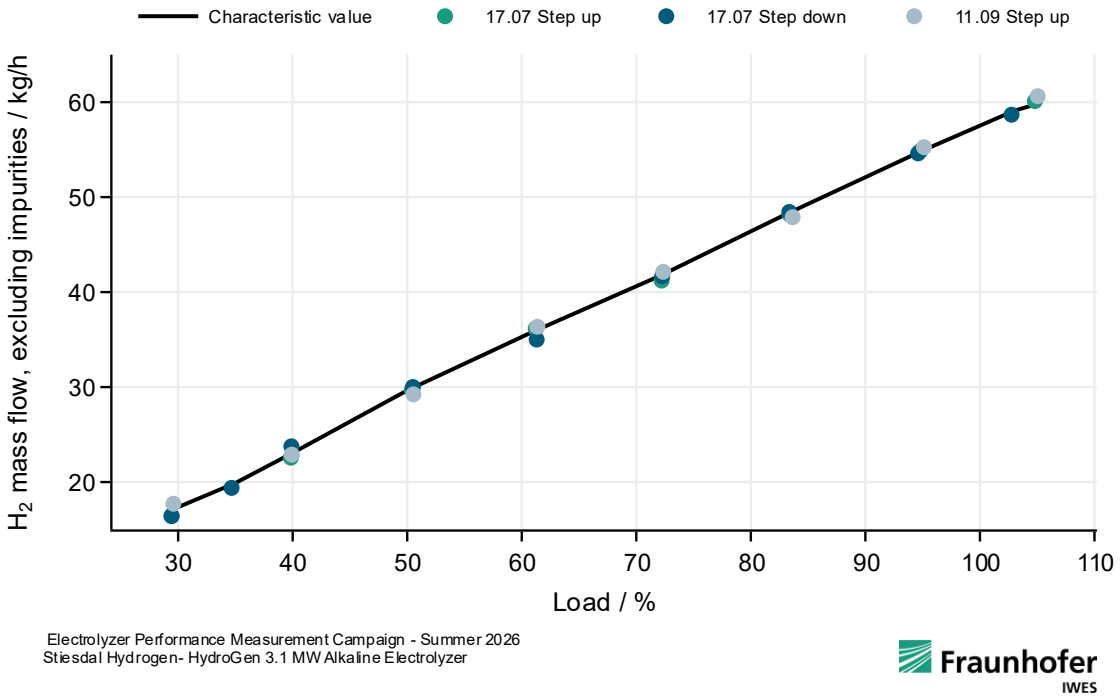


	Specific hydrogen production rate kg/kWh			
Load (%)	**Test run 1 17.07.2026 Step up**	**Test run 2 17.07.2026 Step down**	**Test run 3 11.09.2026 Step up**	**Characteristic value**
105	0.018463	-	0.018582	0.01850
103	-	0.018463	-	0.01852
100	-	-	-	0.01855
95	0.018594	0.018549	0.018673	0.01861
83	0.018635	0.018629	0.018664	0.01864
72	0.018610	0.018660	0.018820	0.01870
61	0.018826	0.018615	0.018976	0.01881
50	0.018844	0.018848	0.018860	0.01885
40	0.018469	0.018819	0.018692	0.01866
35	-	0.018234	-	0.01841
29	0.018173	0.018209	0.018623	0.01833

3 Hydrogen mass flow

3.1 Hydrogen mass flow excluding impurities

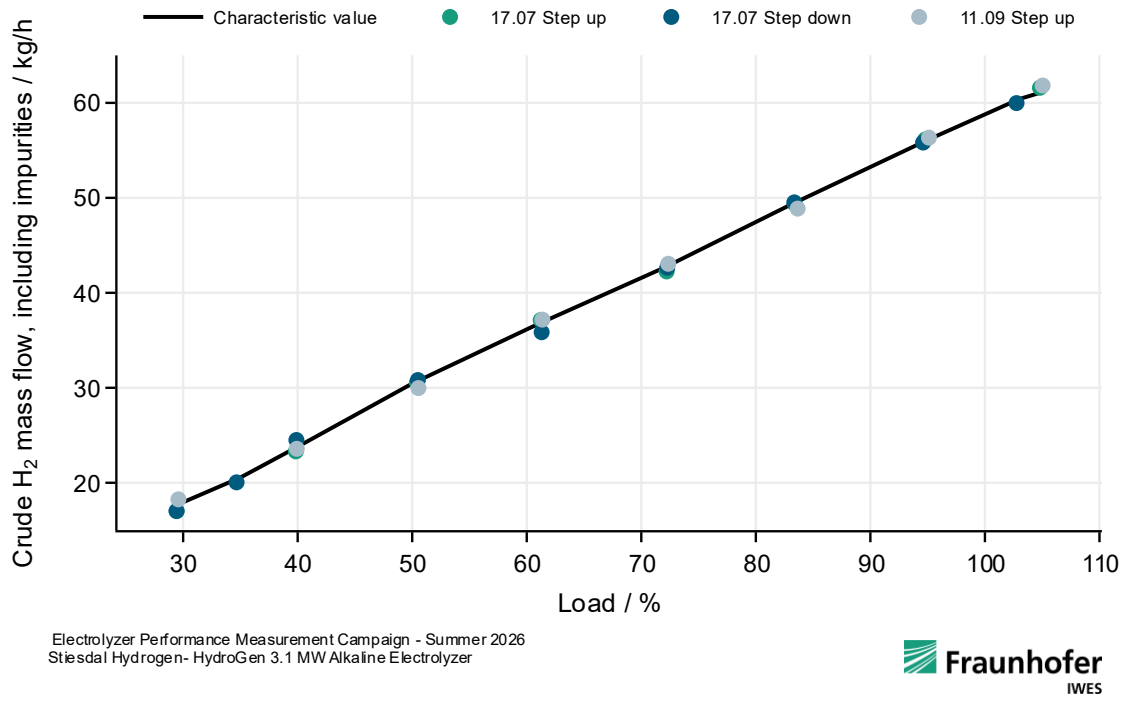
The following presents the results of the mass flow corrected for impurities in the H_2 output stream of the DUT. The results are shown in the following table and diagram:



	H_2 mass flow, excluding impurities kg/h			
Load (%)	**Test run 1 17.07.2026 Step up**	**Test run 2 17.07.2026 Step down**	**Test run 3 11.09.2026 Step up**	**Characteristic value**
105	60.11	-	60.63	59.8
103	-	58.68	-	59.1
100	-	-	-	57.5
95	54.85	54.61	55.26	54.9
83	48.17	48.43	47.88	48.2
72	41.21	41.68	42.14	41.7
61	36.16	35.00	36.35	35.8
50	29.70	30.01	29.23	29.6
40	22.57	23.76	22.88	23.1
35	-	19.38	-	19.9
29	16.40	16.43	17.72	16.9

3.2 Crude hydrogen mass flow including impurities

The following presents the mass flow of the product gas directly measured in the H_2 output stream of the DUT. This stream consists mainly of hydrogen but does also contain impurities in the form of nitrogen, oxygen and water vapor. The evaluation is conducted for each load step. The results are shown in the following table and diagram:



	Crude H_2 mass flow, including impurities kg/h			
Load (%)	**Test run 1 17.07.2026 Step up**	**Test run 2 17.07.2026 Step down**	**Test run 3 11.09.2026 Step up**	**Characteristic value**
105	61.59	-	61.82	61.1
103	-	59.98	-	60.4
100	-	-	-	58.8
95	56.15	55.82	56.34	56.1
83	49.38	49.52	48.87	49.3
72	42.25	42.64	43.06	42.6
61	37.13	35.85	37.18	36.7
50	30.55	30.81	29.97	30.4
40	23.31	24.50	23.58	23.8
35	-	20.04	-	20.5
29	17.01	17.04	18.25	17.4

3.3 Impurities

The following presents the results of the impurities found in the H_2 output stream of the DUT. Other components besides nitrogen, water, and oxygen are considered negligible.

3.3.1 Nitrogen content

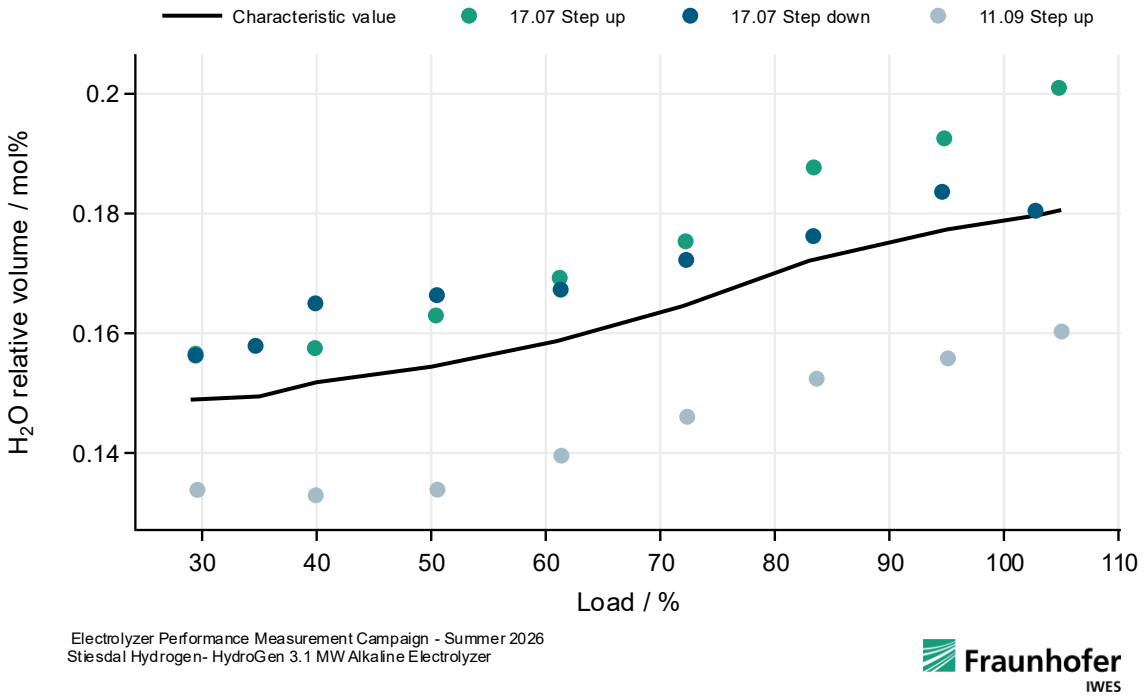
The nitrogen content in the H_2 output stream is assumed to be constant across the entire load range:

$$c_{N2} = 0.0010 \text{ mol\%}$$

Stiesdal Hydrogen A/S has undertaken significant efforts to directly measure the nitrogen concentration online. However, Stiesdal Hydrogen A/S did not successfully combine high temporal resolution with low detection limits with the installed mass spectrometer. The mass spectrometer could be used to generate purging curves (high frequency measurements), during startup, while a calibrated gas chromatograph (low detection limit) was used to establish the low-ppm nitrogen content in steady-state operation. By using the existing downstream measurement (a calibrated Siemens/Valmat MAXIMUM II gas chromatograph), IWES and Stiesdal Hydrogen A/S have agreed upon using 10 ppm for residue nitrogen concentration. This is treated as a fixed value because calibrated data could only be obtained with low frequency resolution. The full reasoning and analysis for this can be found in the corresponding analysis document assembled by Stiesdal Hydrogen A/S.

3.3.2 Water content

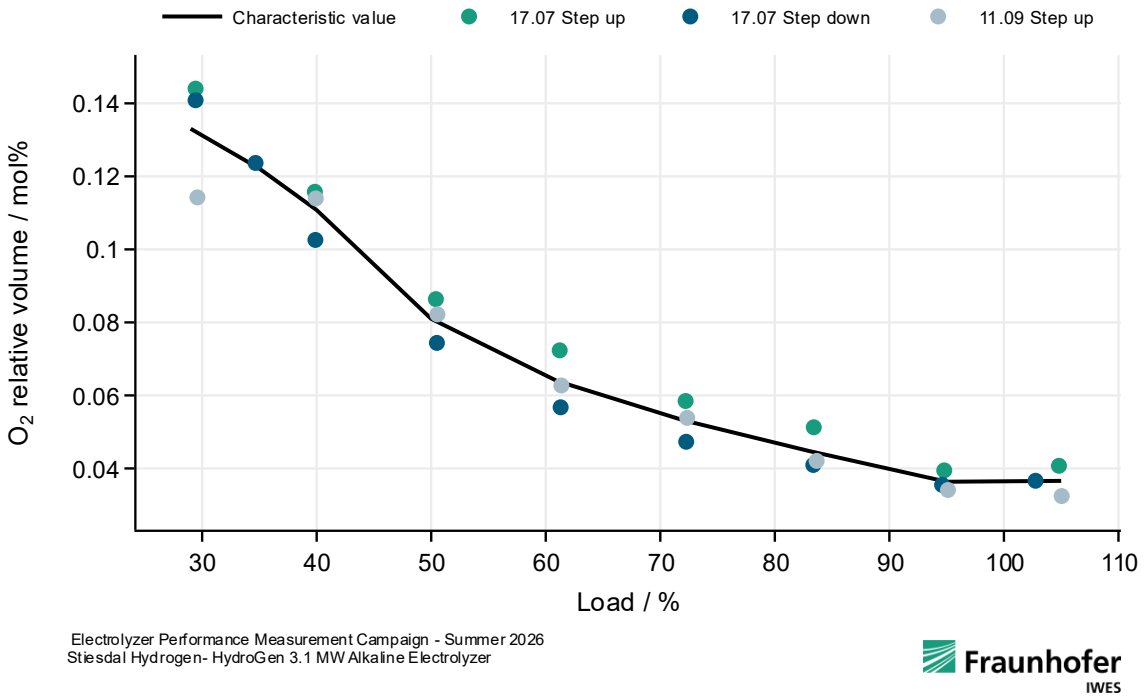
The water content for purposes of later calculations is defined as the water vapor concentration at saturation conditions in the output stream. This indirect method was chosen due to constraints with the measurement equipment and is laid out in more detail in the annex document. The chart below shows the corresponding calculation for the three different measurement runs.



	H_2O relative volume mol%			
Load (%)	**Test run 1 17.07.2026 Step up**	**Test run 2 17.07.2026 Step down**	**Test run 3 11.09.2026 Step up**	**Characteristic value**
105	0.2010	-	0.1603	0.181
103	-	0.1805	-	0.180
100	-	-	-	0.179
95	0.1926	0.1836	0.1558	0.177
83	0.1877	0.1762	0.1524	0.172
72	0.1754	0.1723	0.1460	0.165
61	0.1693	0.1673	0.1395	0.159
50	0.1630	0.1664	0.1339	0.154
40	0.1575	0.1650	0.1329	0.152
35	-	0.1579	-	0.149
29	0.1566	0.1563	0.1338	0.149

3.3.3 Oxygen content

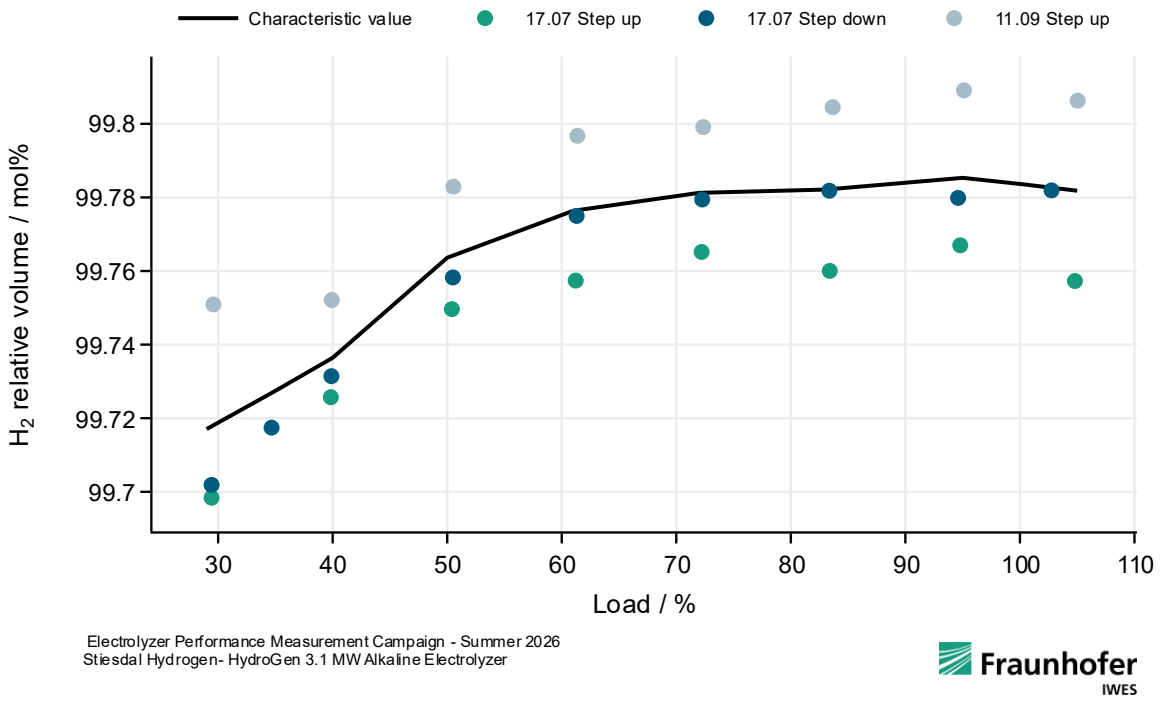
The following presents the results of the analysis of the mole percent of oxygen in the H_2 output gas stream. The oxygen concentration is directly measured from a branch of the main production line. The evaluation is conducted for each load step. The results are shown in the following table and diagram.



	O_2 relative volume mol%			
Load (%)	**Test run 1 17.07.2026 Step up**	**Test run 2 17.07.2026 Step down**	**Test run 3 11.09.2026 Step up**	**Characteristic value**
105	0.0407	-	0.0324	0.037
103	-	0.0366	-	0.037
100	-	-	-	0.037
95	0.0395	0.0355	0.0341	0.036
83	0.0513	0.0409	0.0421	0.045
72	0.0585	0.0473	0.0538	0.053
61	0.0723	0.0567	0.0627	0.064
50	0.0864	0.0744	0.0822	0.081
40	0.1158	0.1026	0.1139	0.111
35	-	0.1237	-	0.122
29	0.1440	0.1409	0.1142	0.133

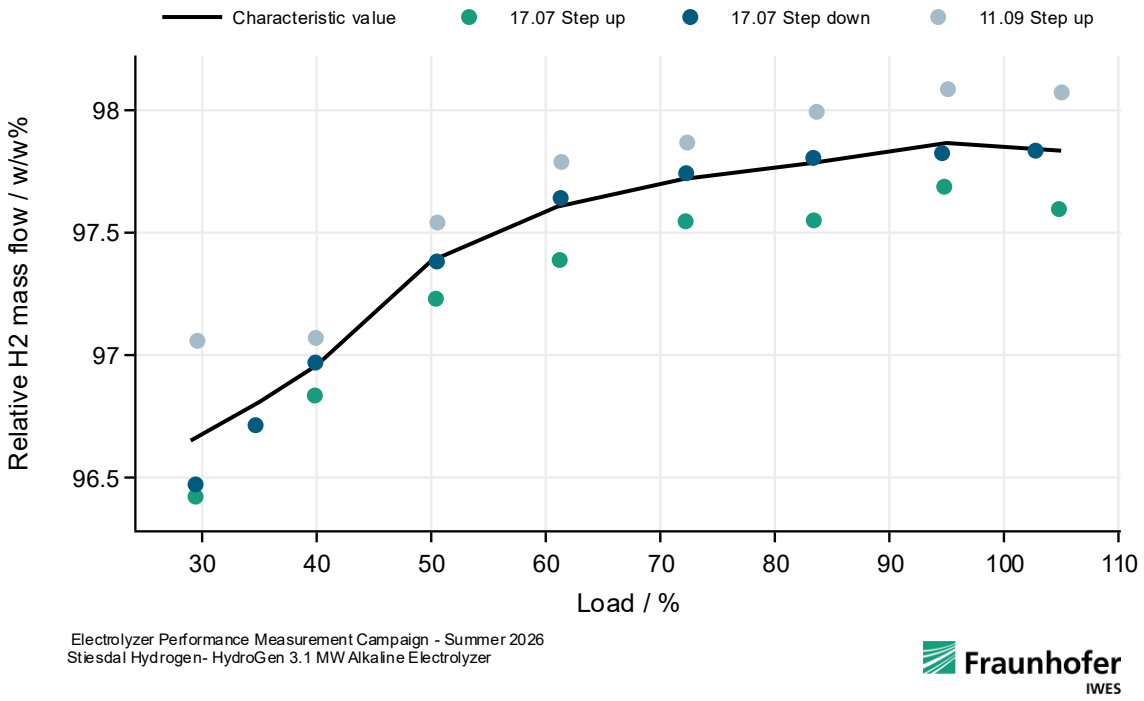
3.4 Hydrogen quality

The hydrogen quality was evaluated by following the general assumption that the product gas consists of hydrogen, nitrogen, water and oxygen with all other potential impurities being defined as negligible. The following table and chart present the results of the analysis of the mole percent of hydrogen in the H_2 output gas stream. The evaluation is conducted for each load step. The results are shown in the following table and diagrams:



	H_2 relative volume mol%			
Load (%)	**Test run 1 17.07.2026 Step up**	**Test run 2 17.07.2026 Step down**	**Test run 3 11.09.2026 Step up**	**Characteristic value**
105	99.757	-	99.806	99.78
103	-	99.782	-	99.78
100	-	-	-	99.78
95	99.767	99.780	99.809	99.79
83	99.760	99.782	99.805	99.78
72	99.765	99.779	99.799	99.78
61	99.757	99.775	99.797	99.78
50	99.750	99.758	99.783	99.76
40	99.726	99.731	99.752	99.74
35	-	99.717	-	99.73
29	99.698	99.702	99.751	99.72

The correction for the mass flow to determine the actual usable amount of hydrogen produced requires a conversion from mol% to w/w% as the impurities are measured as mol% of the gas stream. The below table and figure show the result of these calculations:



	H_2 relative volume mol%			
Load (%)	**Test run 1 17.07.2026 Step up**	**Test run 2 17.07.2026 Step down**	**Test run 3 11.09.2026 Step up**	**Characteristic value**
105	99.757	-	99.806	99.78
103	-	99.782	-	99.78
100	-	-	-	99.78
95	99.767	99.780	99.809	99.79
83	99.760	99.782	99.805	99.78
72	99.765	99.779	99.799	99.78
61	99.757	99.775	99.797	99.78
50	99.750	99.758	99.783	99.76
40	99.726	99.731	99.752	99.74
35	-	99.717	-	99.73
29	99.698	99.702	99.751	99.72

4 Power consumption

For converter efficiency and the U/I curve, only test runs 1 and 2 are available.

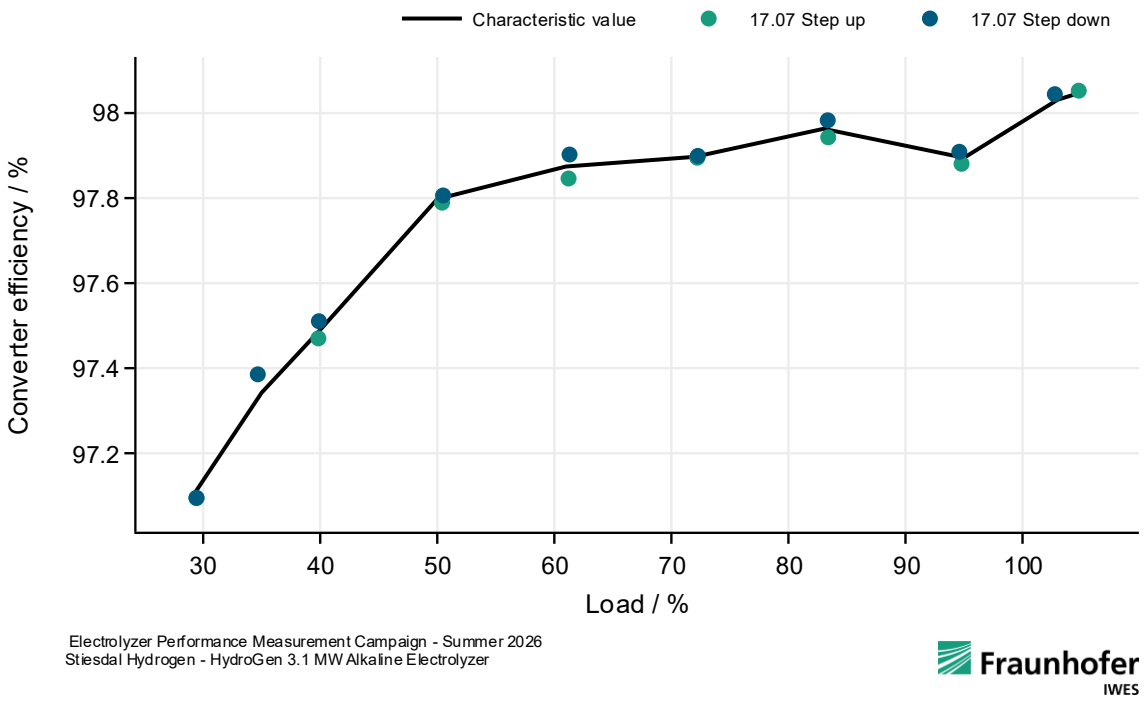
During test run 3, the DC-side current sensor of the converter was faulty. The DC current is needed both to determine the converter DC power, and thus the converter efficiency, and to plot the U/I curve, so neither can be calculated for that run.

The characteristic values in these sections are therefore based on the two test runs instead of three.

All other results are unaffected, as they do not depend on the DC-side current measurement.

4.1 AC/DC converter efficiency

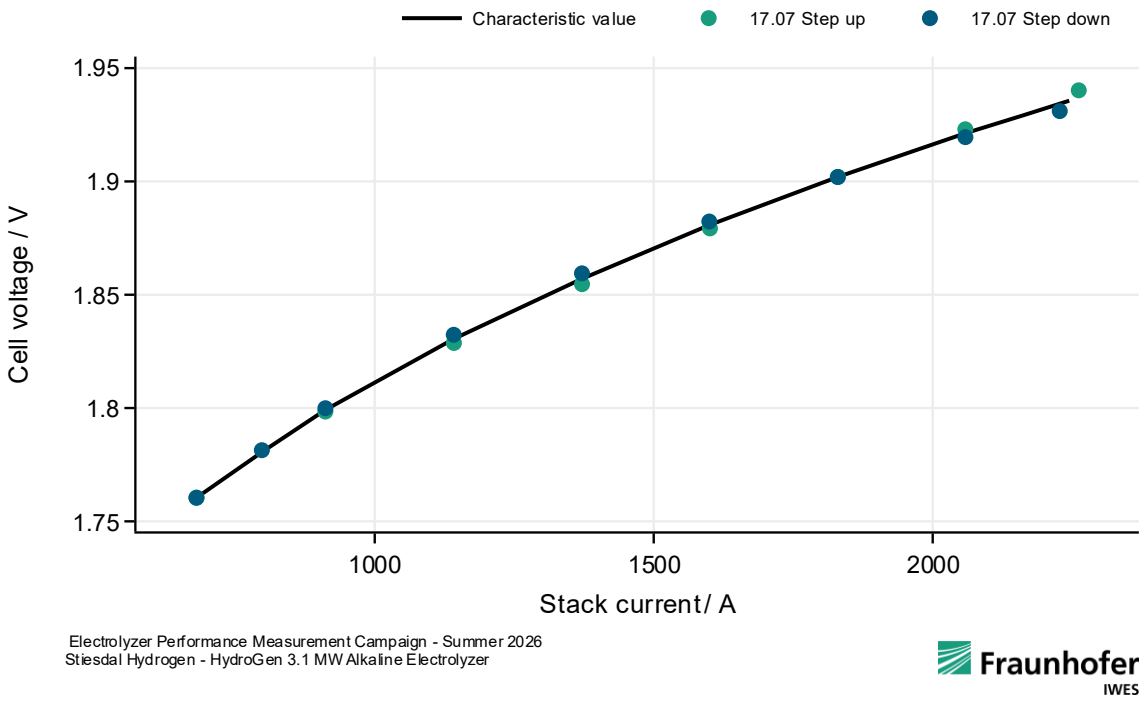
The following presents the AC/DC conversion efficiency of the rectifier. The results are shown in the following table and diagram:



	Converter efficiency %		
Load (%)	**Test run 1 17.07.2026 Step up**	**Test run 2 17.07.2026 Step down**	**Characteristic value**
105	98.05	-	98.0
103	-	98.04	98.0
100	-	-	98.0
95	97.88	97.91	97.9
83	97.94	97.98	98.0
72	97.89	97.90	97.9
61	97.85	97.90	97.9
50	97.79	97.81	97.8
40	97.47	97.51	97.5
35	-	97.39	97.3
29	97.09	97.10	97.1

4.2 U/I curve

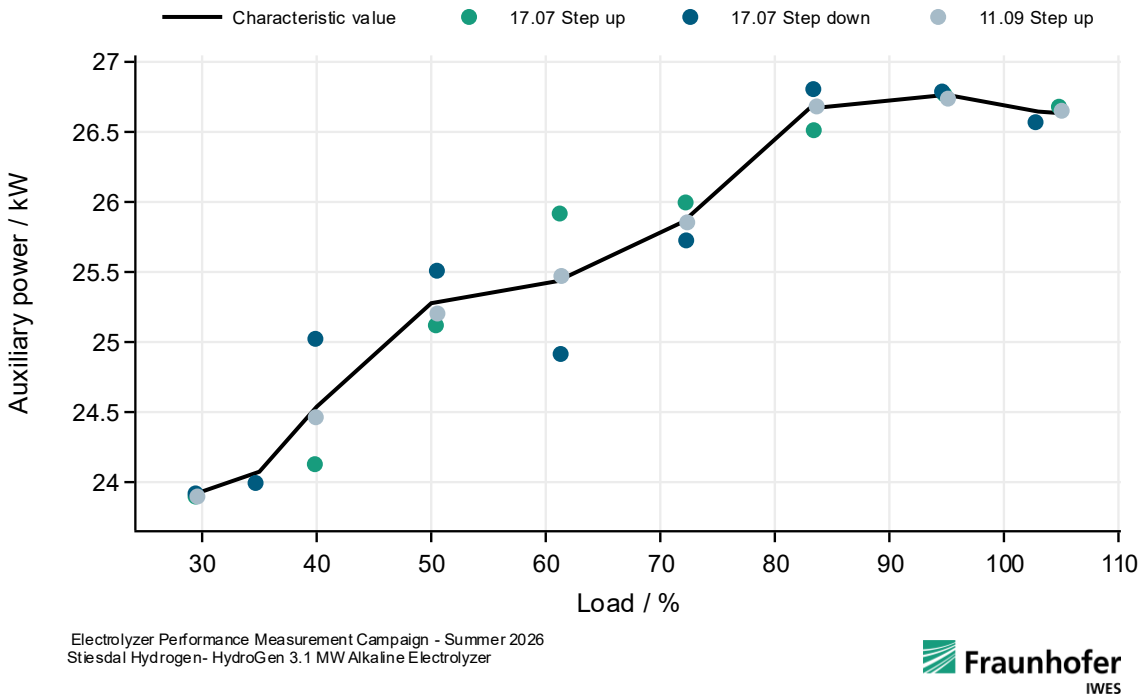
The following presents the results of U/I curve measurements. The results are based on the current and voltage measured at the stack. The measured stack voltage is divided by the number of cells in the stack (720). Instead of the load steps in percent, the exact DC current measurements are given. Each row still corresponds to one single load step. The results are shown in the following table and diagram:



	Stack voltage V		
I_DC A	**Test run 1 17.07.2026 Step up**	**Test run 2 17.07.2026 Step down**	**Characteristic value**
2245	1.940	-	1.936
2224	-	1.931	1.934
2162	-	-	1.929
2059	1.923	1.920	1.921
1830	1.902	1.902	1.902
1600	1.879	1.882	1.881
1371	1.855	1.859	1.857
1142	1.829	1.832	1.831
912	1.798	1.800	1.799
802	-	1.781	1.781
680	1.760	1.760	1.760

4.3 Auxiliary power

The following presents the results of the auxiliary power measurements. Notably the auxiliary of this DUT does not include gas treatment like removal of oxygen or drying. This is in line with the specification of the DUT with the hydrogen target quality being 98%. The results are shown in the following table and diagram:

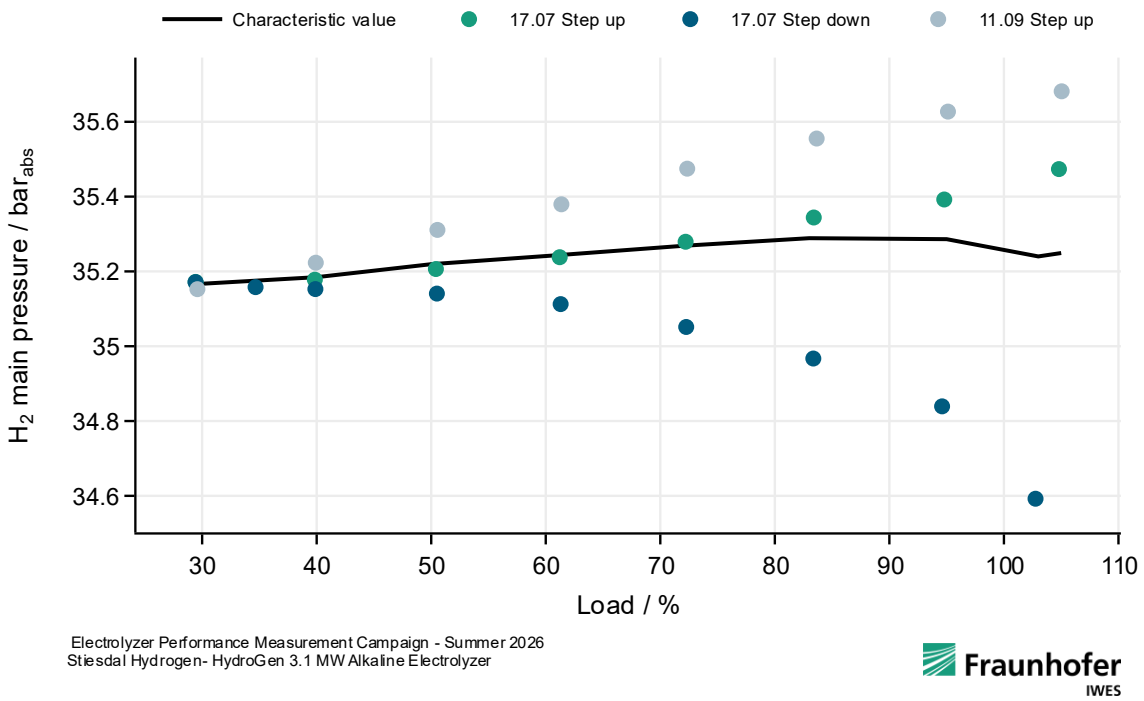


	Auxiliary power kW			
Load (%)	**Test run 1 17.07.2026 Step up**	**Test run 2 17.07.2026 Step down**	**Test run 3 11.09.2026 Step up**	**Characteristic value**
105	26.68	-	26.65	26.6
103	-	26.57	-	26.6
100	-	-	-	26.7
95	26.77	26.79	26.74	26.8
83	26.51	26.81	26.68	26.7
72	26.00	25.73	25.85	25.9
61	25.92	24.91	25.47	25.4
50	25.12	25.51	25.20	25.3
40	24.13	25.02	24.46	24.5
35	-	23.99	-	24.1
29	23.90	23.92	23.90	23.9

5 Delivery Conditions

5.1.1 H_2 operating pressure

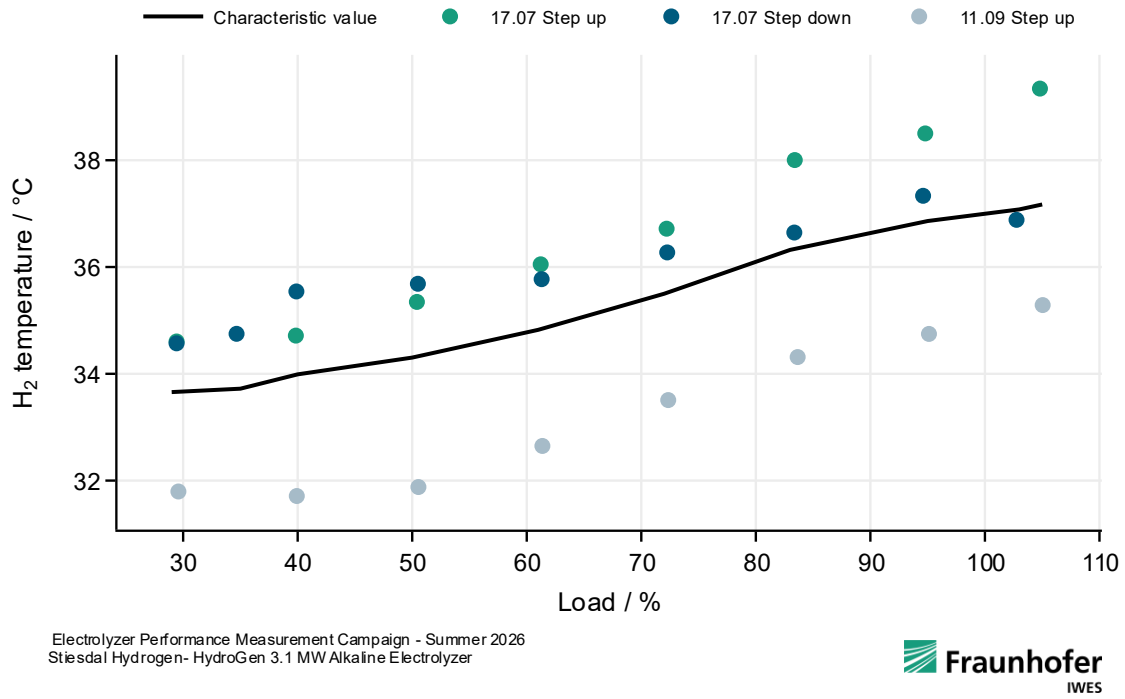
The chart below shows an overview of the delivery pressures in the main hydrogen line to the customer.



	H_2 main pressure bar_{abs}			
Load (%)	**Test run 1 17.07.2026 Step up**	**Test run 2 17.07.2026 Step down**	**Test run 3 11.09.2026 Step up**	**Characteristic value**
105	35.47	-	35.68	35.25
103	-	34.59	-	35.24
100	-	-	-	35.26
95	35.39	34.84	35.63	35.29
83	35.34	34.97	35.56	35.29
72	35.28	35.05	35.47	35.27
61	35.24	35.11	35.38	35.24
50	35.21	35.14	35.31	35.22
40	35.18	35.15	35.22	35.18
35	-	35.16	-	35.17
29	35.17	35.17	35.15	35.17

5.1.2 Delivery Temperature in H_2-line

The chart below shows the delivery temperature in the main hydrogen line to the customer.



	H_2 temperature °C			
Load (%)	**Test run 1 17.07.2026 Step up**	**Test run 2 17.07.2026 Step down**	**Test run 3 11.09.2026 Step up**	**Characteristic value**
105	39.34	-	35.29	37.2
103	-	36.88	-	37.1
100	-	-	-	37.0
95	38.50	37.33	34.75	36.9
83	38.00	36.65	34.31	36.3
72	36.72	36.27	33.51	35.5
61	36.05	35.77	32.65	34.8
50	35.35	35.69	31.88	34.3
40	34.72	35.54	31.71	34.0
35	-	34.75	-	33.7
29	34.61	34.57	31.80	33.7