H_2HUBB TEST REPORT

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Evaluation Introduction

Our report summarizes H_2HUBB's analysis of the updated 2026 iteration of the HUVE PERFORM Hydrogen Water Bottle, offered by HUVE. H_2HUBB classifies this device as a premium high-pressure PSI portable H_2 water system. The device features PEM/SPE membrane technology to support H_2 gas production regardless of source water conductivity or TDS level. Its cycle timeframes are 5 minutes and 10 minutes, and we evaluated the system's dissolved hydrogen performance at both cycle durations. The unit contains a 3.7 V, 1800 mAh battery, as stated in the battery specifications. Our investigation was conducted to determine whether the product meets H_2HUBB's H_2 product performance standards, which must be achieved in order for a device to be approved and recommended by H_2HUBB. To learn more about our H_2 performance standards for hydrogen water bottles, visit **H_2HUBB.**

H_2 Products

- Company: HUVE
- Product Name: HUVE PERFORM Hydrogen Water Bottle
  - 2026 Updated Edition
- Type: High-Concentration H_2 Water Device
  - PEM/SPE
  - Portable Hydrogen Water Generator
  - High-PSI bottle
- Model: HV-H_2P-01
- URL Link: **https://www.huve.com.au/products/huve-perform**

Method and Procedure

- Distilled water: 6.0 pH (verifies that unit can function with low water conductivity)
- ΔpH (delta pH): Did not increase
- Water Temperature: 65~70°F/ 18~21°C
- Bottle Vol Size: 0.230 L or 230 mL (7.77 oz)
- Cycle Time Frame:
  - 5-minutes
  - 10-minutes
- Contamination Tests:
  - Chlorine generation (Cl2)
  - Ozone Generation (O3)
- Test Location: 277 meters (909 ft elevation)
- Test Methodology:
  - Electrochemical detection using Unisense H_2 Microsensor.
- All Dissolved H_2 Concentration Tests Converted to SATP (water temp and pressure)
- Claimed Dissolved H_2 mg/L: > 6.0 mg/L as stated in the manual

Test Results

To measure the dissolved hydrogen gas concentration, the updated HUVE PERFORM bottle was filled with 230 mL (7.77 oz) of distilled water, up to the base of the lid threads. The lid was then securely fastened, and the system was activated using either the 5-minute or 10-minute hydrogen generation mode. All measurements were conducted using the Unisense H_2 Microsensor paired with the UniAmp amplifier. Each test was repeated multiple times to support accuracy and reproducibility, and the resulting values were averaged to determine the bottle's overall performance. While the primary emphasis is placed on the mean dissolved hydrogen concentration, peak concentration values are also reported to provide a more complete evaluation of the bottle's hydrogen-generation capability.

H_2 Concentration at SATP:

- 5-mins avg mg/L (ppm): ≅ 5.03 mg/L (ppm)
- 10-mins avg mg/L (ppm): ≅ 8.82 mg/L (ppm)

Peak H_2 Concentration at SATP:

- 5-mins peak mg/L (ppm): ≅ 5.20 mg/L (ppm)
- 10-mins peak mg/L (ppm): ≅ 9.30 mg/L (ppm)

Avg H_2 mg Produced in Designated Vol:

- 5-mins: ≅ 1.16 mg (≡ 14.08 mL Dissolved)
- 10-mins: ≅ 2.03 mg (≡ 24.63 mL Dissolved)

- **Claimed H_2 mg/L (ppm) confirmed: Yes**

H_2HUBB Hydrogen Concentration Assessment

- According to our testing, the HUVE PERFORM Hydrogen Water Pitcher consistently achieved dissolved molecular hydrogen concentrations ranging from 5.03 to 8.82 mg/L (ppm) during both the 5- and 10-minute generation cycles, with a peak concentration of 9.30 mg/L (ppm) measured using the Unisense H_2 Microsensor. Based on current human clinical literature, these concentrations are more than sufficient to provide therapeutic benefits. The device exceeds H_2HUBB's performance standards for both **H_2 Concentration and Daily Dose of H_2.** For practical use, we recommend the 10-minute cycle as the optimal dose and setting for preparing hydrogen-rich water with this bottle.

Contamination Test:

- Chlorine (Cl2): No detectable levels
- Ozone (O3): No detectable levels

Internal Performance

Manufacturer's Rated Electrical Values: (as stated on the power supply)

- **Type of device/electrolytic cell**
  - Pure H_2: PEM/SPE membrane
- **Applied volts:**
  - 3.7 volts
- **Total Amps:**
  - 1800 mAh (1.8 amps)
- **Total watts:**
  - 6.66 Wh (watts)

Product Assessment

Functionality:

- Power on/off button
  - Located on the H_2 generator.
  - Press the power button to initiate electrolysis for hydrogen gas production and initiate a 5-minute session, then shuts off.
  - Press the power button for three seconds to initiate a 10-minute session time then shuts off.
- Cleaning Mode
  - Press the power button three times consecutively to initiate cleaning mode.
  - Reverses the electrode polarity to generate a disinfectant agent at the plates while simultaneously repelling mineral buildup from the electrodes.
- USB-C charging port
  - Located on the backside of the device.
- Anode reservoir off-gas port
  - Pin-hole located on the bottom of the bottle.

Overall Opinion

The 2026 edition of the HUVE PERFORM Hydrogen Water Bottle is a high-performing, well-constructed, high-pressure PSI hydrogen water generator. In H_2HUBB's evaluation, a 10-minute operation cycle produced an average dissolved H_2 concentration of 8.82 mg/L (ppm) in 230 mL (7.77 oz) of water. This resulted in a total dissolved hydrogen content of 2.03 mg, equivalent to approximately 24.63 mL of H_2 gas at SATP. The device also achieved an impressive peak hydrogen concentration of 9.30 mg/L, demonstrating its ability to reach dissolved hydrogen concentrations that are exceptionally rare for this product category.

It is important to note that H_2HUBB references the maximum peak concentration observed during the testing period for documentation purposes only. This value should not be interpreted as a concentration that can be consistently achieved with every use. For this reason, our reports emphasize the average dissolved hydrogen concentration derived from multiple replicate tests, as this provides a more reliable indicator of performance consistency. Dissolved hydrogen levels were measured using the Unisense H_2 Microsensor with UniAmp amplifier, a laboratory-grade electrochemical instrument that provides real-time detection and precision comparable to gas chromatography, while minimizing variability commonly observed with colorimetric oxidimetry methods.

Based on these results, the HUVE PERFORM bottle delivers a therapeutically relevant molecular hydrogen dose per serving. Drinking one full 230 mL bottle produced on the 10-minute cycle provides more than 2.5 times H_2HUBB's 0.8 mg minimum daily H_2 dose standard, which is supported by peer-reviewed molecular hydrogen research. Consuming 1–4 bottles per day, equal to 230–920 mL or 7.77–31.10 oz, can provide approximately 2.03–8.12 mg of H_2 per day, further enhancing total daily hydrogen intake beyond what most hydrogen water bottles on the market can achieve.

Dissolved hydrogen concentration (mg/L (ppm)) is a critical performance metric, as research suggests that 1-3 mg of H_2 or more per day appears to be therapeutic for humans. Furthermore, the **IHSA** standard for this type of product is a minimum of 0.5 mg/serving or 0.5 mg/L. H_2HUBB's performance standard for hydrogen water devices is slightly higher than IHSA, as we require the device to provide a concentration of 0.8 mg/L (ppm) and 0.8 mg/day consistently. The 2026 edition HUVE PERFORM Hydrogen Water Bottle offered by HUVE surpassed H_2HUBB standards for both **H_2 Concentration and Daily Dose of H_2**. Based on current research data, we believe the device's mg/L (ppm) performance provides adequate levels of hydrogen gas to induce therapeutic effects in humans. **According to our test results, the product can easily provide 1–3 mg of H_2 per day, achieving this dose in as little as a single serving.** We are highly satisfied with the device's dissolved hydrogen concentration.

Based on H_2HUBB's internal testing data across multiple hydrogen water bottles within the industry, the updated 2026 HUVE PERFORM Hydrogen Water Bottle produced the highest dissolved molecular hydrogen concentration H_2HUBB has measured to date during a 10-minute cycle.

For years, 6.0 mg/L (ppm) of dissolved molecular hydrogen represented an upper performance threshold for hydrogen water bottles, with only a few exceptions. More recently, a small number of new-generation hydrogen water bottles have been able to consistently achieve average dissolved hydrogen concentrations above 6.0 mg/L (ppm). This is important because we are referring to average dissolved hydrogen concentrations, not isolated peak H_2 readings, unverified marketing claims, or self-reported test results. In fact, several newer-generation hydrogen water bottles have now demonstrated the ability to achieve average concentrations in the 7.0–8.0 mg/L range, showing a clear industry trend toward improved pressure regulation, hydrogen gas production, and bottle construction.

Because the HUVE PERFORM's results were higher than expected, H_2HUBB performed additional testing beyond our normal evaluation procedure. During the testing process, we also rechecked the Unisense H_2 Microsensor, H_2-saturated calibration water, and calibration protocol three separate times to confirm measurement accuracy. The results remained consistent across these repeated tests, with only minor variance, and all measured values remained within the 8.0–9.0+ mg/L range.

That being said, hydrogen water bottles capable of achieving 9.0–10.0 mg/L (ppm) during a 10-minute cycle remain extremely rare. The HUVE PERFORM is not only IHSA Certified and constructed with BPA/BPS-free Tritan™ plastic, but the recent updates to the bottle have also resulted in the device consistently achieving dissolved molecular hydrogen concentrations in the 8.0–9.0 mg/L range. This represents a significant performance achievement within the hydrogen water bottle category.

Furthermore, the bottle produced dissolved hydrogen at a rate of approximately 1.03 mg/L per minute during the 5-minute cycle and 0.92 mg/L per minute during the 10-minute cycle. This indicates a near-linear and consistent hydrogen production rate across both cycle durations. In other words, the bottle's hydrogen dissolution rate is essentially close to 1.0 mg/L per minute while the system is active. This demonstrates a highly consistent hydrogen gas production and dissolution rate and reflects strong electrolytic cell performance and overall system consistency.

H_2HUBB is highly impressed with these results. At the time of this report, the 2026 edition of the HUVE PERFORM has generated the highest dissolved hydrogen reading H_2HUBB has measured in a 10-minute cycle.

Overall, the 2026 edition of the HUVE PERFORM Hydrogen Water Bottle is a well-designed and well-constructed system made with safe materials and capable of consistently producing therapeutically relevant concentrations of dissolved hydrogen gas within its 230 mL capacity. The manufacturer's safety claims were supported by H_2HUBB's findings, and the device's performance meets and, in several key areas, exceeds H_2HUBB's objective internal standards. No safety concerns were identified during testing, and the system effectively incorporates safeguards designed to prevent the formation of harmful byproducts such as chlorine or ozone in the drinking water. Based on our evaluation, the 2026 HUVE PERFORM Hydrogen Water Bottle represents a safe, practical, reliable, and high-performing option for in-home hydrogen water therapy, offering consumers strong usability along with clinically relevant hydrogen dosing.

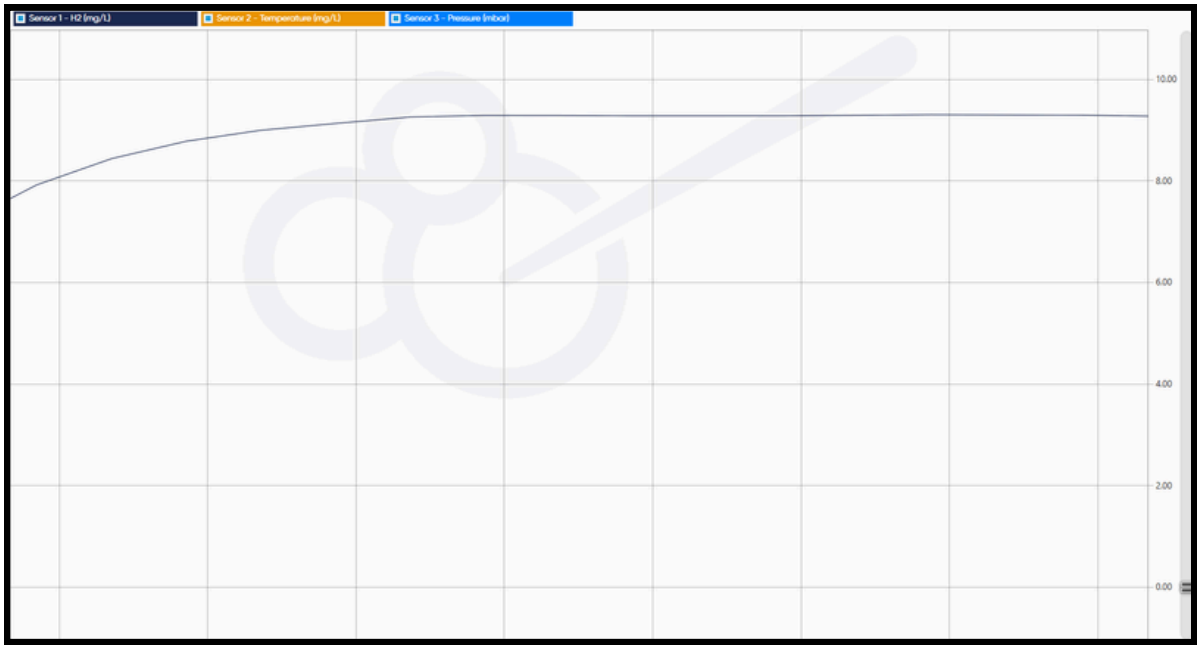
Figure 1. 5-Minute Dissolved H_2 Time-Trace – 2026 Edition HUVE PERFORM Bottle (Unisense H_2 Microsensor)

These plots display the real-time amperometric output from the Unisense H_2 Microsensor paired with the UniAmp amplifier during the 5-minute and 10-minute hydrogen generation time traces of the HUVE PERFORM Hydrogen Water Bottle. The sensor signal, measured in picoamperes and converted to mg/L hydrogen, captures the dynamic dissolved H_2 concentration in the water in real time with a temporal resolution as fine as 0.02 seconds per data point. Data were recorded over the course of each testing period, typically during the first several minutes following bottle opening.

The traces illustrate both the dissolved hydrogen concentrations achieved by the bottle and the natural signal fluctuations that occur during the post-generation phase, as dissolved hydrogen begins to equilibrate and gradually outgas from the solution. Due to the very high hydrogen concentration and resulting microbubble formation, occasional signal spikes can be observed, which is a known artifact in highly supersaturated hydrogen solutions. To minimize this effect, H_2HUBB employed a controlled re-entry technique by removing and reimmersing the microsensor to dislodge surface bubbles, then averaging the top 15 stable readings to determine the final dissolved hydrogen value.

These high-resolution time-series data further demonstrate the HUVE PERFORM bottle's ability to generate and sustain exceptionally high dissolved hydrogen concentrations during the 5-minute and 10-minute cycles within its 230 mL volume.

Figure 1. 10-Minute Dissolved H_2 Time-Trace – 2026 Edition HUVE PERFORM Bottle (Unisense H_2 Microsensor)



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Approved By: Tywon Hubbard

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