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H2HUBB Official Test Report

Evaluation Introduction

Our report summarizes our analysis of the HydroStanley 32 oz Hydrogen Water Bottle offered by the company Dr. Water. H₂HUBB classifies this device as a base-pressure (psi) portable H₂ water system. The device features a PEM/SPE membrane to ensure H₂ gas production regardless of source water conductivity (TDS). Its session time-frame or cycle time-frames are 10 minutes and 20 minutes. We evaluated the system's dissolved hydrogen performance at 10 and 20 minutes. The unit contains a 3.7 V +3000 mAh battery, as stated by the battery specs. Our investigation was to analyze whether the product would meet our H₂ product performance standards, which must be achieved to be approved and recommended by H₂HUBB. To learn more about our H₂ performance standards for hydrogen water bottles, visit [H₂HUBB](https://www.h2hubb.com).

H2 Products

- Company: Dr. Water
- Product Name: HydroStanley 32oz
- Type: Base-Concentration H₂ Water Device
 - PEM/SPE
 - Portable hydrogen water generator
 - Base-PSI bottle
- Model: ZHDY-W10-3
- URL Link: <https://drwater.store/products/dr-water-hydrotumbler>

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: 0.90 L or 900 mL
- Cycle Time Frame:
 - 10-minutes
 - 20-minutes
- Contamination Tests:
 - Chlorine generation (Cl₂)
 - Ozone Generation (O₃)
- Test Location: 277 meters (909 ft elevation)
- Test Methodology:
 - Titration: H₂Blue® Test Reagent
- All Dissolved H₂ Concentration Tests Converted to SATP (water temp and pressure)
- Claimed Dissolved H₂ mg/L: 3.0 mg/L (post 10 minutes)

Test Results

To measure the dissolved hydrogen gas concentration, the bottle was filled to 90% capacity with 900 mL (30 oz) of distilled water. The straw was removed, the lid was securely fastened, and the bottle was then activated using either the 10-minute or 20-minute hydrogen generation setting. All measurements were conducted using the H₂Blue testing method. Multiple tests were performed to ensure accuracy, and the results were averaged to determine the bottle's performance. While our primary emphasis is on the average dissolved hydrogen concentration, peak concentration values are also included to provide a comprehensive analysis of the bottle's capabilities.

H₂ Concentration at SATP:

- 10-mins avg mg/L (ppm): $\cong$ 1.10 mg/L (ppm); SD: 0.10
- 20-mins avg mg/L (ppm): $\cong$ 1.60 mg/L (ppm); SD: 0.09

Peak H₂ Concentration at SATP:

- 10-mins peak mg/L (ppm): $\cong$ 1.20 mg/L (ppm)
- 20-mins peak mg/L (ppm): $\cong$ 1.70 mg/L (ppm)

Avg H₂ mg Produced in Designated Vol:

- 10-mins: $\cong$ 1.01 mg ($\equiv$ 12.22 mL Dissolved)
- 20-mins: $\cong$ 1.40 mg ($\equiv$ 17.0 mL Dissolved)
- **Claimed H₂ mg/L (ppm) confirmed: No**

H₂HUBB Hydrogen Concentration Assessment

- According to our testing, the HydroStanley 32oz Hydrogen Water Bottle exhibits a dissolved molecular hydrogen concentration of 1.10 - 1.60 mg/L (ppm) throughout its cycle durations of 10 and 20 minutes, with a peak H₂ concentration of 1.70 mg/L (ppm). Based on current scientific literature in human studies, the dissolved hydrogen concentration on the 10-20 minute settings is deemed sufficient to induce therapeutic effects. The bottle surpasses our H₂HUBB standards for both **H₂ Concentration and Daily Dose of H₂**, and we recommend users utilize the 10-minute cycle time for consuming hydrogen water from the device.

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 H₂: PEM/SPE membrane
- **Applied volts:**
 - 3.7 volts
- **Total Amps:**
 - 3000 mAh (3.0 amps)
- **Total watts:**
 - 11.10 Wh (watts)
- **Electrolysis volts:**
 - 1.82 volts
- **Electrolysis amps:**
 - 1.14 amps
- **Total watts:**
 - 2.07 watts

H₂ Production vs. Dissolved Hydrogen:

- **Theoretical Max H₂ production:**
 - 8.68 mL/min or 0.71 mg/min
- **Theoretical Max Dissolved H₂ Level**
 - 10-mins: $\cong$ 8.0 mg/L (ppm)
 - 20-mins: $\cong$ 16.0 mg/L (ppm)
- **Measured Dissolved H₂ reading:**
 - 10-mins: $\cong$ 1.10 mg/L (ppm)
 - 20-mins: $\cong$ 1.60 mg/L (ppm)
- **Percentage of Max H₂ Dissolved (as measured):**
 - 10-mins: $\cong$ 12.60% dissolved
 - 20-mins: $\cong$ 10.0% dissolved
- **Percentage of Max H₂ Undissolved (loss):**
 - 10-mins: $\cong$ 87.40% undissolved
 - 20-mins: $\cong$ 90% undissolved

Product Assessment

Functionality:

- Power on/off button
 - Located on the bottom of the H₂ generator.
 - Press the power button to initiate electrolysis for hydrogen gas production and initiate a 10-minute session, then shuts off.
 - Press the power button twice to initiate a 20-minute session time then shuts off.
- Flip-top straw lid
 - The bottle includes a flip-top straw lid for easy, spill-resistant drinking.
- 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.

Reliability:

- New: Yes
 - Initial test results and evaluation are currently on the report. (see Overall Opinion)

Cost:

- HydroStanley 32oz Hydrogen Water Bottle: \$119.99 USD
- H₂ Hubb discount: TBA
- H₂ Hubb recommendation cost: TBA

Overall Opinion

The HydroStanley 32oz Hydrogen Water Bottle is a reliably built, standard portable hydrogen water generator. In our evaluation, a 20-minute operation cycle produced approximately 1.60 mg/L (ppm) of dissolved H₂ in 900 mL of water, yielding a total hydrogen content of 1.40 mg, equivalent to 17.0 mL of H₂ gas at SATP. This molecular hydrogen dose is sufficient to deliver a therapeutically relevant amount of H₂ to the human body, provided the water is consumed within 1 to 1.5 hours after production. Importantly, even if only 500 mL of the hydrogen-rich water is consumed, the user would ingest approximately 0.8 mg of H₂—meeting H2HUBB's minimum daily effective dose standard based on the scientific literature. This bottle is also notable for its larger water volume compared to most hydrogen water bottles on the market. Based on our testing, the HydroStanley 32oz model is a effective option for consumers seeking a higher-capacity bottle that still delivers a clinically relevant dose of hydrogen.

Dissolved hydrogen concentration (mg/L (ppm)) is a critical performance metric, as research suggests that 1-3 mg of H₂ 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. H₂HUBB'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 HydroStanley 32oz Hydrogen Water Bottle offered by Dr. Water surpassed H₂HUBB standards for both **H₂ Concentration and Daily Dose of H₂**. 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 ranks as a Level 1 hydrogen water device.** You can view the meaning of this rankings [here](#). We are pleased with the device's dissolved hydrogen concentration.

During our testing, we observed that the bottle built up slight internal partial pressure above 1 atm (14.7 psi), resulting in mild supersaturation of hydrogen gas in the water and producing a peak concentration of 1.70 mg/L (ppm). While the device may have been capable of achieving even higher concentrations (e.g., 2.0 mg/L or more), pressure loss through the flip-top straw and the imperfect seal on the lid limited its ability to retain gas effectively. As a result, H2HUBB classifies this product as a base-pressure hydrogen water device, based on its performance in our testing. Despite not reaching the manufacturer's claimed hydrogen concentration, the device consistently produces therapeutic levels of hydrogen gas in water, making it a viable option for consumers seeking the health benefits of molecular hydrogen.

Interestingly, the hydrogen concentration observed may actually be more practical given the bottle's large capacity of nearly one liter (33.8 oz). According to Henry's Law and principles of gas solubility and exsolution, the higher the dissolved gas concentration above saturation (1.57 mg/L at SATP), the faster the gas will equilibrate with the atmosphere and dissipate [1][2]. This is a fundamental property observed with all atmospheric gases—similar to how carbon dioxide rapidly escapes from a pressurized champagne bottle when opened. For hydrogen gas, this means higher concentrations result in a shorter half-life in water. For example, hydrogen at the saturation point of 1.57 mg/L has a half-life of approximately 2 hours at SATP [3], whereas hydrogen at 8.0 mg/L has a half-life closer to 1 hour [4]. Given that most users are unlikely to consume a liter of water within a short time-frame, achieving concentrations in the 3.0–4.0 mg/L range could lead to rapid H₂ loss before ingestion. Therefore, while the device did not confirm the manufacturer's claimed peak concentrations, the tested hydrogen levels may actually be more compatible with the product's design and intended user experience—balancing efficacy with practicality.

Given that H2HUBB performance levels are based on the maximum hydrogen dose per serving size of 1 liter of water [5], the Level 1 performance rating may not fully capture this device's strengths. It is important to note that H2HUBB's performance levels reflect hydrogen concentration output and therapeutic potential, not overall build quality. While higher-level products (Levels 3 and 4) often correlate with better performance and construction, this is not always the case. A Level 1 product may, in some instances, feature superior construction or durability compared to a Level 4 device, but deliver lower hydrogen concentration per serving. The strength of the Dr. Water HydroStanley bottle lies in its ability to combine adequate hydration with a sufficient hydrogen concentration—based on human clinical studies—capable of producing therapeutic effects. In contrast, smaller high-concentration hydrogen water bottles are optimized for delivering effective H₂ doses in small volumes (typically 7–10 oz), allowing users to receive benefits without consuming more than 1 liter of hydrogen water per day.

Both approaches have their advantages and are designed to meet different user needs. Considering that the World Health Organization recommends daily water intake of approximately 3.7 liters for men and 2.7 liters for women [6], and several human studies on hydrogen water have used daily volumes of 1.5 to 2 liters [7][8], this product appears to align with that model—allowing consumers to incorporate 1 to 2 liters of their daily hydration as hydrogen-rich water.

Overall, the Dr. Water HydroStanley is aesthetically well-designed, constructed with safe materials, and capable of producing a therapeutic concentration of dissolved hydrogen gas in its 900+ mL capacity. The manufacturer's safety claims appear valid, and the device's performance aligns with and exceeds H2HUBB's objective industry standards. We identified no safety concerns during testing. The system incorporates adequate safety features and effectively prevents the formation of harmful byproducts such as chlorine and ozone in the drinking water. Based on our evaluation, we are generally satisfied with the device's performance. The Dr. Water HydroStanley Hydrogen Water Bottle not only meets but exceeds H2HUBB's minimum performance standards. In our professional opinion, it is a safe and practical option for in-home hydrogen water therapy.

We desire to move forward with recommending the product to the public.

H₂ Hubb LLC disclaimer: All tests conducted and test results produced by H₂ Hubb LLC have been done according to industry-accepted practices and standards. Nevertheless, these results may not necessarily reflect test results performed by manufacturers, suppliers or third-party labs. Our test results are independent of all other parties, and testing by other parties may produce different results. We understand that many variables are involved in testing, some of which are extremely difficult to control. These reports are not meant or intended for any other purpose but to uphold H₂ Hubb LLC's business practices and to validate the reasons for our recommendations.



Approved By: Tywon Hubbard

A stylized, handwritten signature of Tywon Hubbard in black ink.

CEO, H₂HUBB LLC

