

# SurfMoG H<sub>2</sub>

by 45-8 ENERGY & SOLEXPERTS

## The most effective IoT tool for long-term hydrogen monitoring in subsurface

SurfMoG H<sub>2</sub> is the result of the expertise and union of a French company, 45-8 ENERGY, and a Swiss company, SOLEXPERTS. 45-8 ENERGY's knowledge of subsurface and expertise into industrial gases, coupled with SOLEXPERTS' recognised skills in terms of mechanics and electronics, led to the creation of the most effective IoT tool to monitor hydrogen, accurately and continuously over months in the subsurface: SurfMoG H<sub>2</sub>.






AN INNOVATION:



SOLEXPERTS

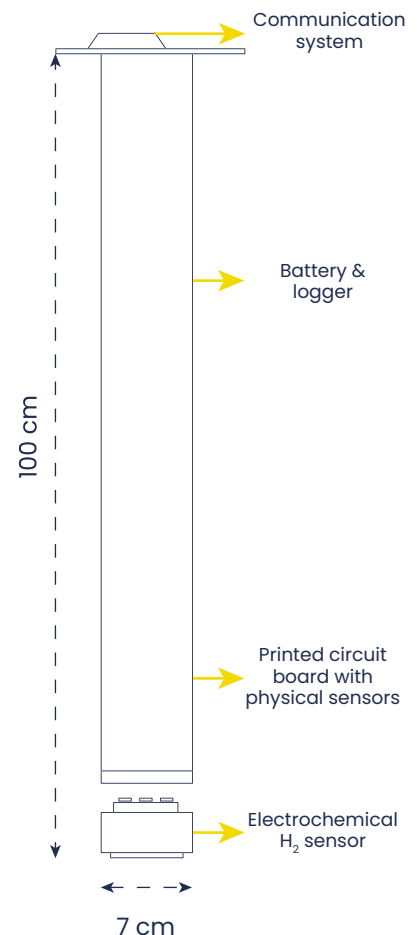
## TECHNOLOGY

SurfMoG H<sub>2</sub> is composed of:

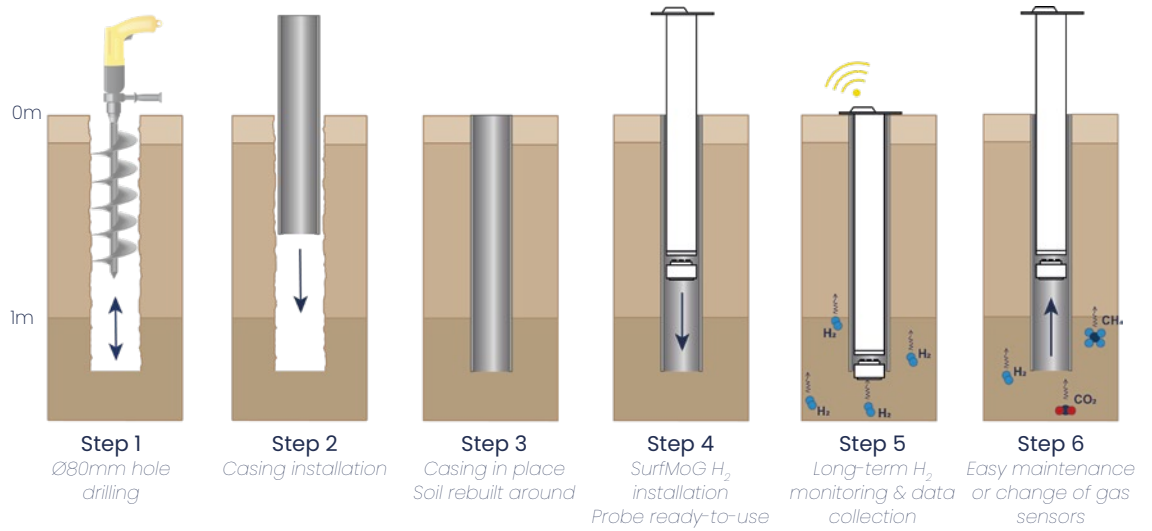
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**An interchangeable gas analysis chamber**, with an electrochemical sensor for hydrogen measurements up to 40,000 ppm (4%)
- 
**An inox probe**, designed specifically to withstand the subsurface's constraints, houses the sensor, battery and communication system.
- 
**A high-strength plastic cover**, to protect antenna and assure accurate data transmission without interference from the probe's installation environment.

### Other SurfMoG versions

SurfMoG was originally designed for hydrogen monitoring. However, long-term subsurface monitoring of other gases could be of interest in various applications. This is why a CO<sub>2</sub> and CH<sub>4</sub> version of SurfMoG has been developed.



SurfMoG H<sub>2</sub> comes with a high-quality stainless-steel casing that simplifies maintenance and makes it easy to change the probe (H<sub>2</sub> or CH<sub>4</sub>/CO<sub>2</sub>).



## SURFMOG H<sub>2</sub> TECHNICAL SPECIFICATIONS



### PROBE

- Inox 316 probe & casing
- Diameter of the Probe: **7 cm / 2.8 inches**
- Length of the Probe: **100 cm / 39 inches**
- Weight of the Probe: **8 kg**
- Interchangeable gas analysis chamber



### SENSORS

- Hydrogen electrochemical sensor: **0 – 40 000 ppm**
- Temperature sensor
- Operating temperature range: **0°C - 50°C**
- Operating humidity range: **10-90%**



### DATA ACQUISITION & TRANSMISSION

- Measurements at **1m depth**
- Sampling rate: **2 times per hour (adjustable)**
- Operating life: **1 year**
- Communication standards: **GPRS**
- Data package transmission: **1 time/day**

## APPLICATION FIELDS



Gas exploration & production



Gas storage



Storage of radioactive waste



Hydrogeology



Geothermal energy

## RENTAL

SurfMoG H<sub>2</sub> is available on a long-term **rental basis (1 to 24 months)** to best suit your needs. SurfMoG H<sub>2</sub> has been designed for the simplest and most efficient user experience:

➔ Ready-to-use

➔ Easy installation and basic maintenance

➔ Access to a data visualization platform with dedicated account

➔ Measurement over a long period

➔ Minimization of interventions

You need to accurately monitor hydrogen flows and want to have more information?

Contact us at:  
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