



## Leak testing with hydrogen trace gas

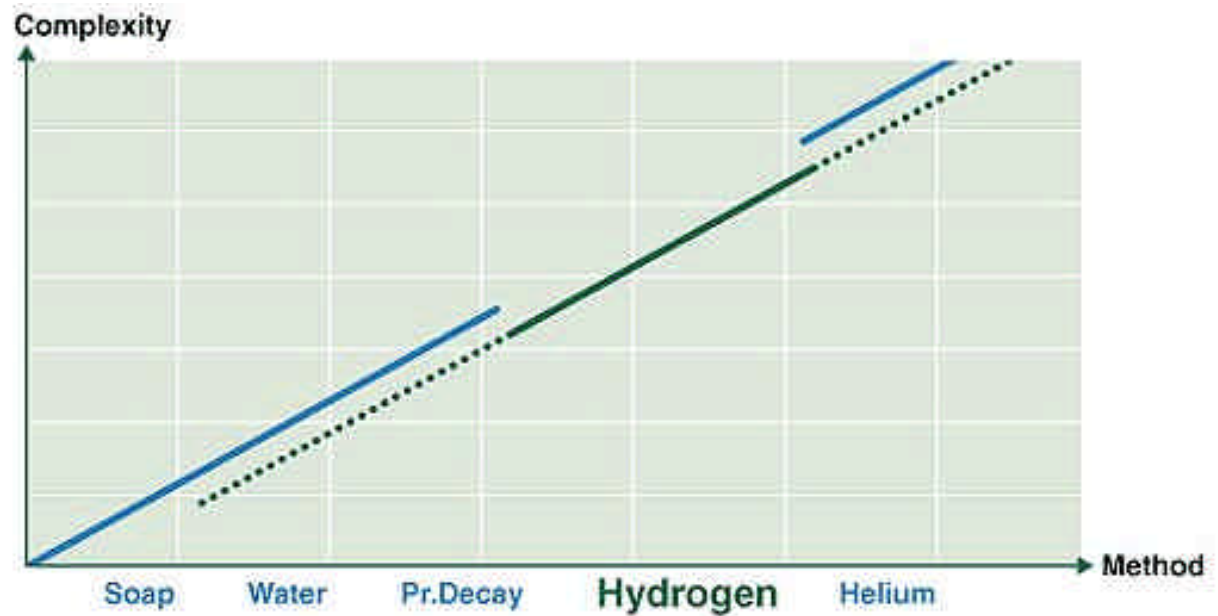


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# Leak testing methods



- Soap
- Waterbath
- Pressure decay
- Trace gases
  - Hydrogen
  - Helium



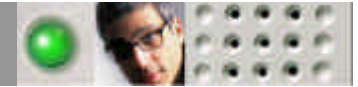
## Hydrogen as trace gas?



- Non flammable (diluted, 5% hydrogen in nitrogen: Forming gas 95/5)
- Low background (0.5 ppm)
- Inexpensive
- Environmentally friendly, sustainable
- Non corrosive
- Non toxic



# Hydrogen Leak detector



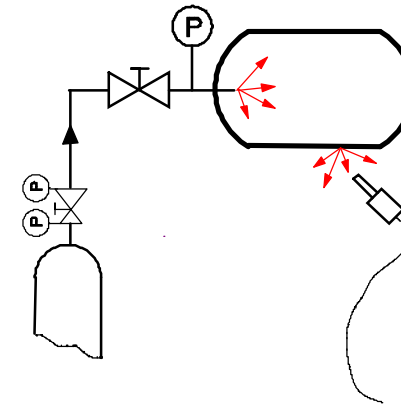
- Robust for industrial environment
- No gas sampling  
(no pumps, no filters)
- Maintenance free
- Short response time,  
quick recovery
- Battery operated, mobile
- Easy to be calibrated
  - Calibration gas
  - Reference Leak





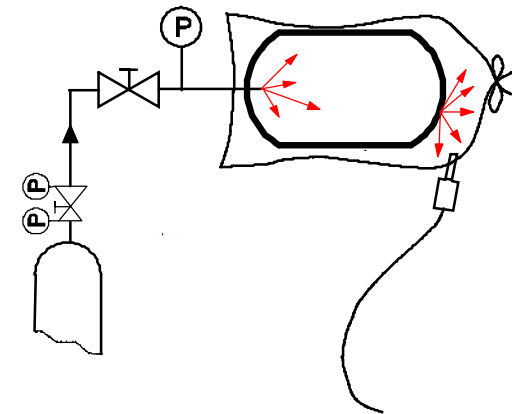
## Leak locating

Sensitivity:  $5 \times 10^{-7}$  mbar/s  
when using a 5% H<sub>2</sub> / 95% N<sub>2</sub>  
tracer gas mixture



## Integral testing

Simple test chamber at  
atmospheric pressure



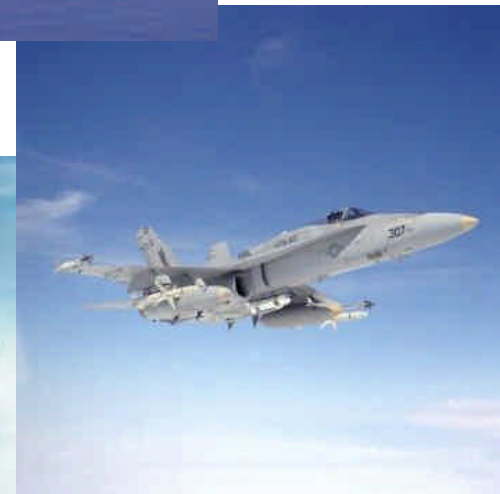
# Application examples



- **Components**
  - Ducts
  - Fuel tanks
  - Engines
- **Assembly**
  - Fuel system
  - Galley cooling system
  - Oxygen system
- **MRO**
  - Fuel system
  - Rotor blades
  - Instruments



# Some aircraft tested with hydrogen





## Leak testing with hydrogen trace gas

Booth 368

[www.sensistor.com](http://www.sensistor.com)