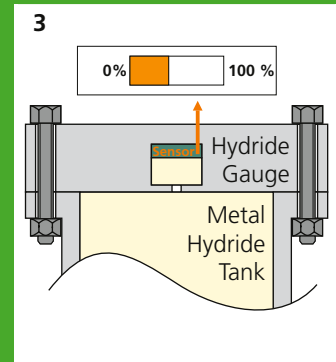
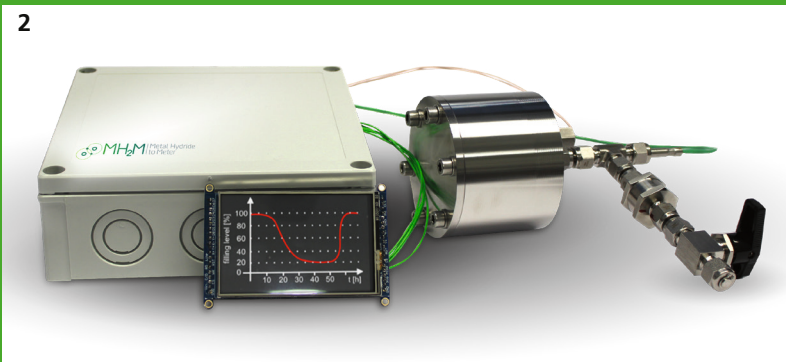
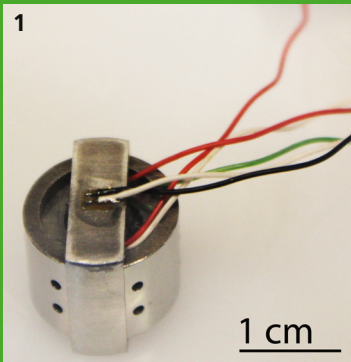


FRAUNHOFER INSTITUTE FOR MANUFACTURING TECHNOLOGY
AND ADVANCED MATERIALS IFAM, DRESDEN BRANCH



- 1 Miniaturized metal hydride gauge
- 2 Stand-alone metal hydride gauge
- 3 Integrated metal hydride gauge



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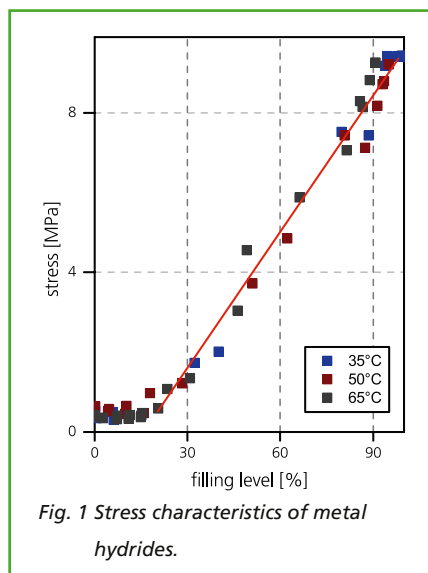
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METAL HYDRIDE TO METER



Technology Innovation

Fraunhofer IFAM offers a solution to measure the filling level of a metal hydride tank with highest precision and response which surpasses the state of the art (patent EP3045910B1). During hydrogenation the metal lattice expands triggering internal stresses that are independent of temperature and can be related to the hydrogen concentration in a linear manner (cf. Fig. 1; DOI: 10.1016/j.ijhydene.2015.06.053).



Advantages

- Independent of temperature and gas pressure
- Linear response
- Precise and durable
- Low maintenance and easy to install (bypass solution)
- Enables metal hydride state-of-health analysis (cf. Fig. 2)
- Applicable for most metal hydrides (e.g. Fe-Ti-based, La-Ni-based, Mg-based)

