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## Gas supply system for liquid hydrogen vehicles



Subject: Research on key technologies of design and manufacture of new gas cylinders based on intrinsic safety

Abbreviation: Liquid hydrogen gas cylinder project

There are two kinds of hydrogen storage methods at home and abroad: 1、high pressure hydrogen storage, 2 cryogenic liquid hydrogen storage.

## Cryogenic liquid hydrogen Storage (Innovation direction of Furui Technology Research and development)

Cryogenic liquid hydrogen storage is the storage of liquid hydrogen by ultra-low temperature (-25 3°C) adiabatic gas cylinder. The standard density of liquid hydrogen is 70.8kg /m3. The mass of 5 00L ultra-low temperature adiabatic gas cylinder is about 300kg, the hydrogen load is about 30kg, and the volume to weight ratio is 30/300=10wt%.

## Research and development of gas supply system for liquid hydrogen vehicles

Since, furui group has undertaken the sub-project of the national key R&D plan "Research on Key Technologies of Design and Manufacture of Ultra-low temperature adiabatic Gas Cylinder (Liquid Hydrogen)" led by China Special Equipment Inspection and Research Institute. So far, 13 patents have been accepted, including 8 invention patents and 5 utility model patents. 6 research papers and 5 core journals have been published. The research and development of liquid hydrogen gas cylinder has achieved fruitful results.

At present, the key performance indicators of liquid hydrogen cylinders have met the R&D requirements, and passed the project acceptance in, laying the foundation for the future industrial development.

As an extension of the liquid hydrogen gas cylinder project, the research and development of the liquid hydrogen gas supply system has completed the production of system samples and is conducting various performance tests. It is expected that the on-board measurement will begin in.