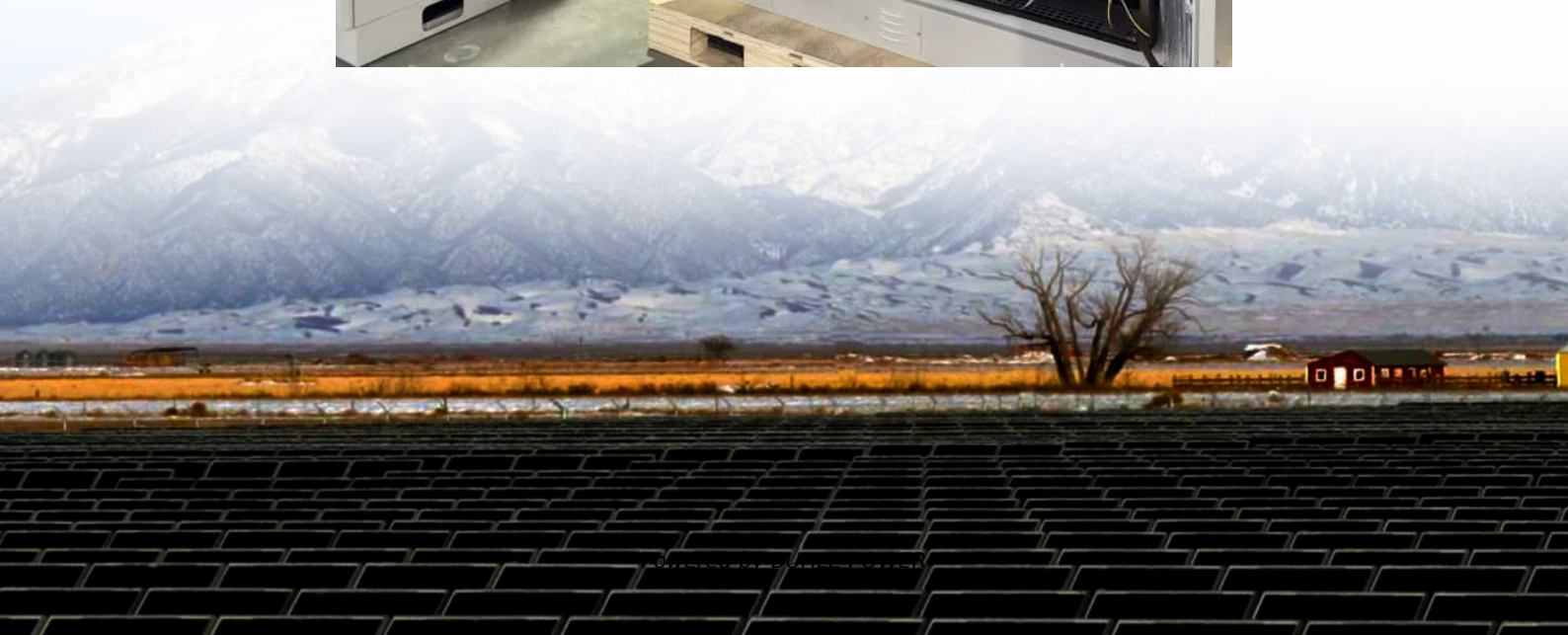


Large-scale high-pressure vessels and energy storage





Overview

What is a gaseous hydrogen storage spherical vessel?

Compared with other types of vessels, gaseous hydrogen storage spherical vessels require the least amount of material for a given diameter and provide a uniform stress distribution. Thus, these vessels are well-suited for large-scale hydrogen storage and are commonly used in hydrogen production stations.

Why is large-scale hydrogen storage important?

With the increasing production of green hydrogen, large-scale hydrogen storage has become crucial, particularly for bulk HPGH₂ vessels exceeding several tons in capacity. Future research will focus on enhancing the hydrogen embrittlement resistance of low-cost steel and developing novel, cost-effective structures.

What are high-pressure gaseous hydrogen storage containers?

This study introduced several high-pressure gaseous hydrogen storage containers, including high-pressure hydrogen storage cylinders, high-pressure composite hydrogen storage tanks, and glass hydrogen storage containers. High-pressure hydrogen storage cylinders include all-metal gas cylinders and fiber composite material-wound gas cylinders.

Why is high-pressure hydrogen storage important?

Consequently, the development of an efficient, sustainable, and safe high-pressure hydrogen storage method is a crucial focus of recent research, aiming to optimize hydrogen's utility in various applications. This review summarizes the latest developments in the most established hydrogen compression technologies.



Large-scale high-pressure vessels and energy storage



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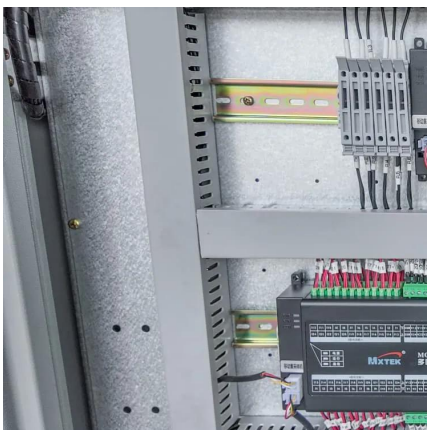
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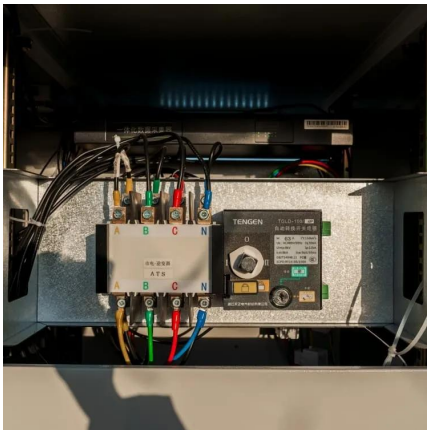
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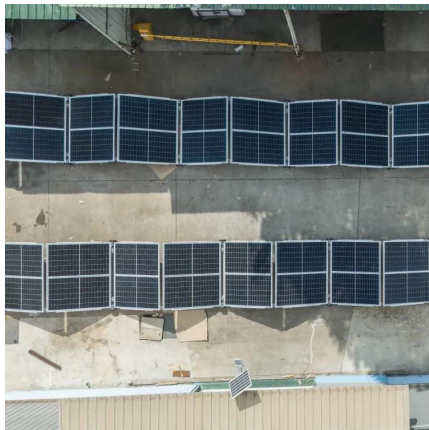
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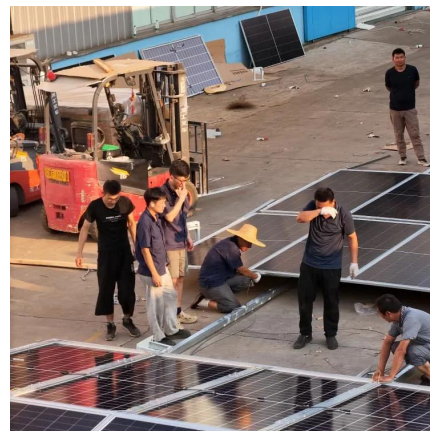


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