

# 2019车用燃料电池系统与关键部件论坛

Vehicle **Fuel Cell** System & Key Components Forum 2019

2019.3.7-3.8

武汉 Wuhan



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### Background

Vehicle used fuel cell (FC) system includes FC stack, air supply system, hydrogen storage and cycling device, and DC/DC convertor etc., occupies above 50% of FCV cost. Under background of FC new energy vehicle development speed up, it is estimated that China hydrogen refueling stations will reach 1000, fuel cell vehicle (FCV) will exceed 1M in 2030, bring huge market opportunities to vehicle used FC system and key components industrial chain.

Stack is key component of vehicle used FC system, which consists of monocoil by way of stacking. Monocoil includes bipolar plate, MEA and seal ring. MEA includes PEM, catalyst and GDL. It is estimated that, China will realize localization and batched supply of FC high quality key materials and parts by 2025. FC system volume specific power reaches 3kW/L, cold start temperature reaches below -30°C, life exceeds 5000h.

FC air supply system consists of air filter, air compressor and humidifier etc. By increase pressure of air entering the stack, FC power density and efficiency can be increased. Air compressor power consumption is huge, and its properties directly influences efficiency of FC system. Aug 2018, Snowman signed an investment of CNY 1.5bn new energy device manufacturing industrial park in Henan Xinxiang, producing FC air compressor, hydrogen circulation system etc. Same month, US UQM announced that it set up FC compressor system service center in Shanghai.

Currently, FCV mainly uses high pressure gas storage method, international mainstream vehicle enterprises mostly use 70MPa hydrogen storage cylinders. China has realized localization of 35MPa hydrogen storage hydrogen cylinders, and estimates to successfully R&D 70MPa ones. Hydrogen cycling compressor used to recover residual hydrogen and vapor discharged by stack, and humidifies FC. Same as air compressor, hydrogen recycle compressor also needs high efficiency, small volume, high reliability, oil-free operation.

China enterprises are actively advancing the localization of vehicle used FC systems. Aug 2017, China first FC engine automation production line, which invests and constructs by Sinohytec, operation. Mar 2018, Sunrise Power vehicle used FC stack module durability exceeds 5000 hours; Apr, Wuhan Himalaya FC catalyst capacity reaches 1200g/d; Sep, Dongyue signed 1.5Mm<sup>2</sup>/a FC membrane project; Oct, 'Full-Power FC Passenger Used Vehicle Power System Platform & Whole Vehicle Development' launched in Wuhan.

*English-Chinese Simultaneous Interpretation will be provided.*

### Topics

1. Global and China Vehicle Used Fuel Cell System Development Current Situation and Market Prospect
2. Localization and Intelligent Manufacture of Fuel Cell Systems and Key Parts
3. Summaries of Fuel Cell Vehicle Demonstration and Operating Experiences
4. Full-Power Fuel Cell Engine Key Technologies R&D
5. Vehicle Used Fuel Cell Systems and Key Parts Standards and Testing Technologies
6. Fuel Cell Stacks Scaled Production and Performance Improving
7. Bipolar Plate Technology Routes Selection - Graphite, Metal and Compound
8. MEA Preparation Technologies and Key Materials - PEM, Catalysts and GDL
9. Fuel Cell Air Compressor Machines Technology Routes Selection
10. FCV Used High Pressure Composite Material Hydrogen Storage Cylinder Technology
11. Vehicle Used Fuel Cell Hydrogen Circulating Compressor Technology Research and Performance Improving
12. FCV Loaded Large Power DC/DC Application Progress
13. Hydrogen Fuel Cell Vehicle Heat Management and Water Management Design and Optimization
14. Analysis of Key Factors of Vehicle Used Fuel Cell Long-term Stable Operation
15. FCV System Safety Problems and Solutions
16. Methanol / Formic Acid On-board Reforming Vehicle Used Fuel Cell Technologies and Development Prospects

**Vehicle Fuel Cell System & Key Components Forum 2019** will be held in Hubei Wuhan on Mar 7-8, 2019. The meeting will discuss global and China fuel cell power systems development current situations and market prospects, localization and intelligent manufacturing of fuel cell power systems and key parts, stacks and MEA, bipolar plates technical progresses, vehicles loaded hydrogen storage, supply and hydrogen circulation systems, fuel cell air compressors technology researches and performances increase, heat managements and water managements design and optimization, vehicles loaded large power DC/DC application progresses, fuel cell vehicles used electric control systems, driven motors and energy storage batteries etc.

### Preliminary Agenda

<b>Mar.07, 2019</b>	<b>Thursday</b>
08:30~18:00	Industrial visiting
<b>Mar.07, 2019</b>	<b>Thursday</b>
18:00~21:00	Pre- conference Registration
<b>Mar.08, 2019</b>	<b>Friday</b>
08:30~12:30	Speech
12:30~14:00	Networking Lunch
14:00~18:30	Speech
18:30~20:00	Banquet

