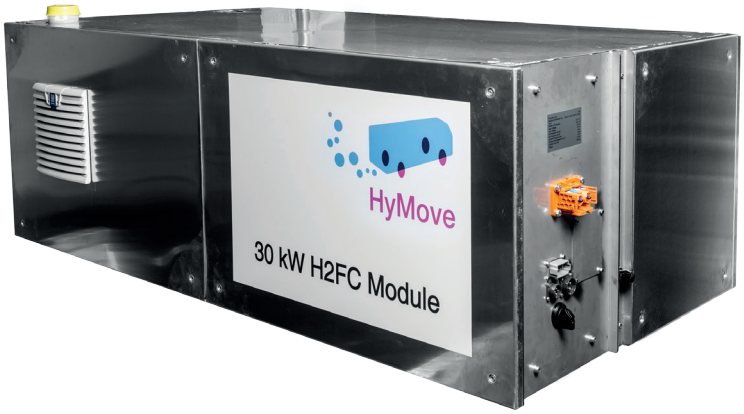

Complete system, ready for Plug & Play integration
HyMove FC system combines long life with high efficiency

"Only the best"

- HyMove presents its new generation Fuel Cell systems for heavy duty vehicles at IAA 2016.

Open air site
Booth 147

So far, heavy duty vehicles have been equipped with fuel cell systems that were not specifically designed for such demanding applications. Critical parameters as efficiency, reliability and durability were not at a level justifying the application. HyMove reinvented the fuel cell system for buses and trucks by selecting technologies and components fit for the hard life in full time service.

HyMove presents its new generation fuel cell system at IAA 2016 in full operation as the energy provider for public transportation buses.

The Hydrogen-Fuel Cell System

The hydrogen-fuel cell (H2FC) system produced by HyMove, The Netherlands, is the most fuel efficient and has the longest lifetime currently available. The fuel efficiency of the system is over 50% at nominal power, about 20% better than its competitors on the market. The lifetime expectation is over 20.000 operating hours (5 years of operation), about 30% longer than other available systems, and, at end-of-life, it only needs refurbishment, instead of replacement, thus reducing the total operating cost dramatically. The H2FC system is designed for efficient and reliable heavy duty operation throughout at least 10 years. It consists of 2 twin 30kW H2FC modules with a guaranteed total nominal power of 60kW at end-of-life with only one planned refurbishment. The two modules work seamlessly together and should one fail, the other takes over, thus warranting a safe completion of the daily operation.

Plug & Play

HyMove designed the H2FC system in close cooperation with several manufacturers of heavy duty vehicles. Based on their requests, the HyMove H2FC system includes all subsystems such as hydrogen supply and recirculation, air supply, primary cooling loop, interfacing to the vehicle high and low voltage systems and CANbus J1939. Consequently, the HyMove system can be integrated in any existing or newly designed electric vehicle without major changes in the vehicle infrastructure or communication and control systems.

Modularity

Standardization is crucial for lowering production cost and increasing production quality. HyMove therefore chose to offer the H2FC system as a 30kW module only, although a lower output module can be achieved by simply leaving out one of more fuel cell stacks. Experience has shown that one 30kW system is sufficient to power a city bus. In case of regional buses, it may be necessary to add a second module, but this can be done easily because modules are designed to fit seamlessly on top of each other.

Full redundancy

Using two modules in one vehicle creates not only more power, but has several additional advantages. First of all, the two modules operate fully independent, creating a 100% redundancy. Even in the unlikely event that one module fails, the other module takes immediately over and this will not result in a vehicle standstill. Another advantage is that the modules are controlled to operate selectively during low power demand, resulting in further extension of the already unmatched long life of the fuel cell system.

Guaranteed maintenance cost

Together with its main suppliers, HyMove is able to guarantee all maintenance cost of the H2FC system over periods up to 10 years and up to a mileage of 1 million kilometres. In many cases the guarantee removes hurdles due to uncertainty of vehicle operators regarding the durability and reliability of relative new technology. HyMove is able to give the guarantee due to the careful selection of components based on efficiency and proven durability in heavy duty applications.

Automotive Certified

The HyMove H2FC system is designed to meet all requirements of industrial standards regarding quality, durability, fitness for purpose and are automotive certified according to Regulations ECE 79/2009, ECE 406/2010. EC R10 (EMC) and EC R100 (EV). Compliance is documented in corresponding reports of European Vehicle Authorities.

Integration support

In concert with the vehicle engineering team, HyMove engineers will make sure that the H2FC system fits perfectly in the vehicle. Hardware, high and low voltage system energy management system can be adapted to the needs of the vehicle. The integration service includes delivery of manufacturing documentation and training of engineering, maintenance and service staff.

HyMove
Hydrogen moves your world

www.hymove.nl