

# HPDS-6 series planar-type fuel cell E-specifications stacks



### ■ What are the features of the product?

The HPDS-6 series E-specifications stacks are planar-type cell stacks that make up solid oxide fuel cells (SOFCs), whose power generation efficiency is high among fuel cells.

In Japan, SOFCs have been in widespread use mainly as residential fuel cells (ENE-FARM), which serve as an innovative distributed base power source that contributes to saving energy and reducing CO<sub>2</sub> emissions. In the U.S., SOFCs have already been introduced for BCP in the event of a disaster at industrial facilities where continuous power supply is required, such as data centers, factories, and large-scale commercial facilities. In Japan, demand for SOFCs is expected to increase in commercial and industrial applications as well.

In this context, the HPDS-6 series E-specifications stack is expected to contribute to the spread of SOFCs.

### ■ Why was the product certified as one of the Nittoku Green Products?

Resource saving

Energy saving

Substance of Concern

The planar-type SOFC cell stacks are characterized by high output density compared to other types of fuel cell stacks. It is easy to increase their efficiency, reduce their size, and lower their costs.

Morimura SOFC Technology Co., Ltd. has been developing planar-type cell stacks for residential, commercial, and industrial use. We have achieved both a reduction in weight and size and high output density, which was previously difficult to attain.

### Advantages of the HPDS-6 series in terms of the structure

Structure	Feature	Advantage
Fuel is hermetically sealed.	Fuel can be recycled.	<ul style="list-style-type: none"> <li>➤ <b>High power generation efficiency</b></li> <li>➤ <b>Low cost</b></li> <li>➤ <b>Compact</b></li> </ul>
Planar type	Consumption of cell materials is small.	
	It is easy to increase the current density.	
	The fracture toughness of cells is high when handling.	
	It is easy to change the number of cells and output.	

### ■ Comment from the developers

“What can we do to solve environmental problems using ceramics?” We started the development of SOFCs based on this question. We spent more than 20 years to commercialize the HPDS-6 series E-specifications stacks. Derived from efforts to pass on technologies developed through many years of operations and introduce cutting-edge technologies, the product represents the commitment of engineers, from basic research to mass production. We will continue to contribute to solving environmental problems by maintaining and developing this technology.

\* HPDS is a registered trademark of Morimura SOFC Technology Co., Ltd. It is the abbreviation for high power density stack.