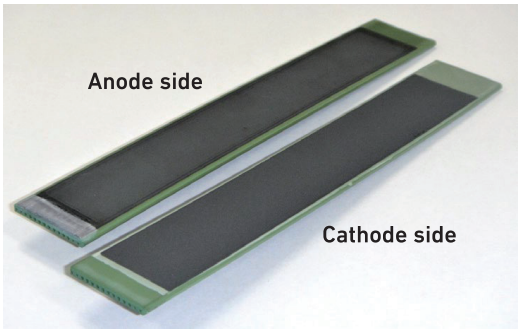
KYOCERA

SOFC Cell Stack

Solid Oxide Fuel Cell (SOFC) systems use hydrocarbon fuels for electric power generation to offer lower CO_2 emissions and greater energy efficiency. Kyocera develops its cell stacks, which form the heart of the SOFC system, using proprietary advanced ceramic technology to provide world-leading power generation efficiency for a low-carbon society.

01 Features

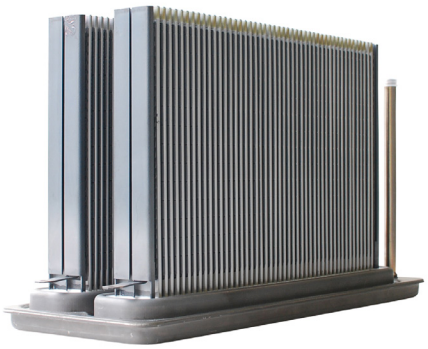
- SOFC Cell
  Simple structure for high efficiency and reliability has been realized with flat tube cells
- SOFC Cell Stack
  Stack design is not only for gas flow design and high electric efficiency, but also provides reliability on heat cycles



SOFC Cell

02 Specifications

- One stack unit is installed in the 700 W "ENE-FARM Type S" – the world's highest efficiency (53.5%) SOFC system
- Half-sized stack unit is installed in the 400 W "ENE-FARM Mini" – the world's smallest high-efficiency residential cogeneration system



SOFC Cell Stack

03 Applications

- Core of the SOFC system for residential use
- Expected to apply our SOFC to other fields by realizing higher levels of efficiency:
  - Portable, emergency, and backup power supplies by reducing size and improving performance
  - Commercial use for power plants
  - Powerful micro-power system with PV
  - Deployment for global energy saving tools

ENE-FARM Mini