

## Fuel Cell Power System

### Features

Attention has been focused on fuel cells in clean power generation equipment that utilize liquefied gas(LNG). The use of an electrochemical power generation method using hydrogen and oxygen in the air makes it extremely efficient and quiet. It is also very environmentally friendly, producing almost no NOx emissions when compared with combustion methods.

- ◆ Effective utilization of gas by power generation
- ◆ Reducing CO2 emissions by power generation used surplus gas
- ◆ High-efficiency power generation under low load (Fig. 1)
- ◆ Long life time (Overhaul every 7.5 years) (Other power generation method : every 2 - 3 years)
- ◆ Clean exhaust gas (Fig. 2 and 3)
- ◆ Low noise (Fig. 4)
- ◆ Heat effective utilization

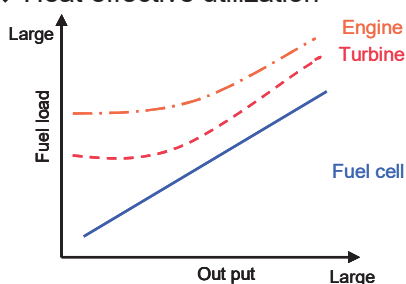


Image of Out put – Fuel load  
Fig.1

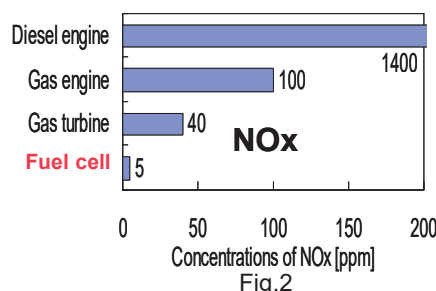


Fig.2

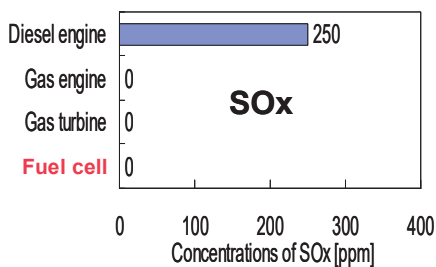


Fig.3

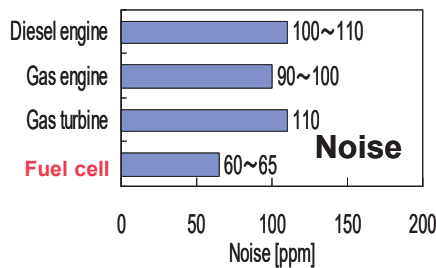
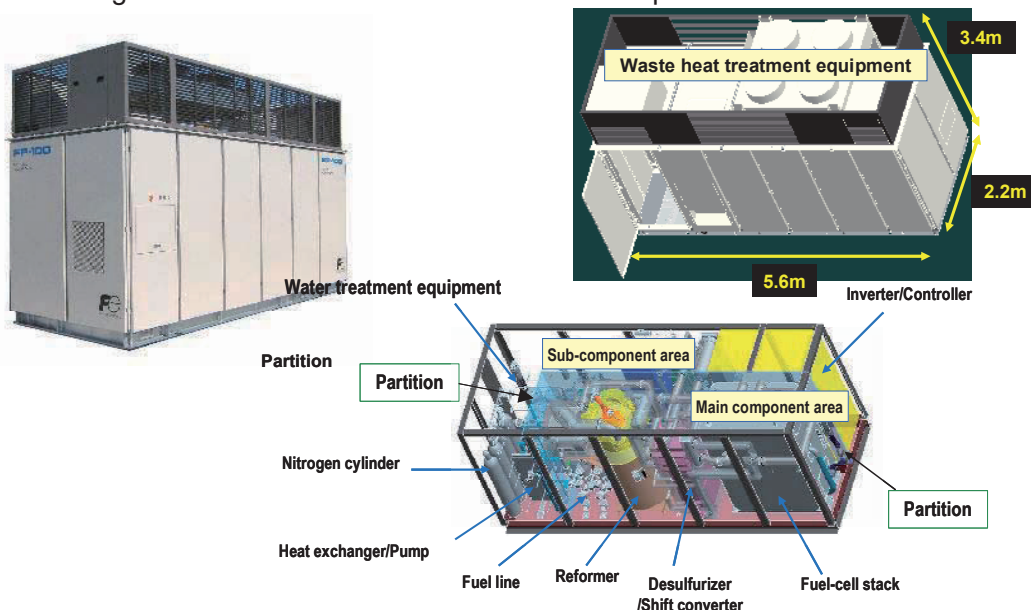


Fig.3

### Basic Concept or Summary

- ◆ Structure diagram : Reduced area of installation and simplified installation.

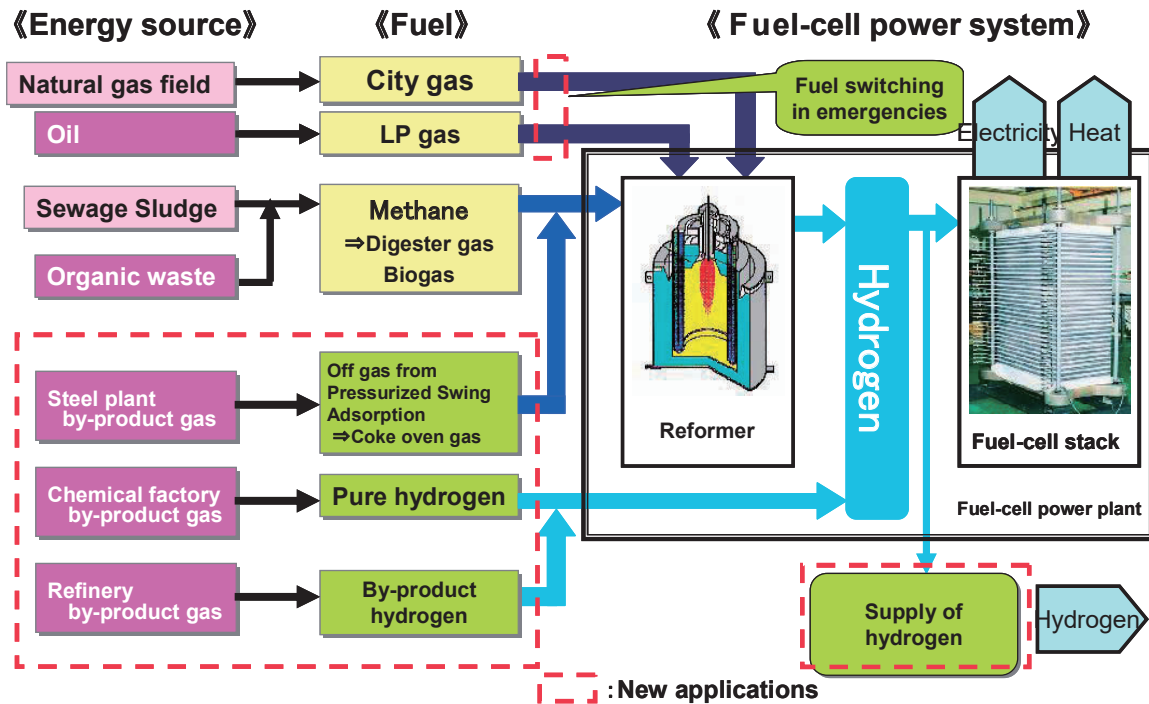


◆Specification

Rated output power	100kW AC
Output voltage	3Φ3W, 210V/220V
Output frequency	50Hz/60Hz
Generating efficiency	42% [LHV(net)] (digestion gas : 40%)
Heat Output	1) High-temperature exhaust heat Recovery Type / 50kW (90 degree) Total efficiency : 62% [LHV]
	2) Mid-temperature exhaust heat Recovery type / 123kW(60 degree) <b>Total efficiency: 92% [LHV]</b>
Exhaust gas	Nox : less than 5ppm [O2 0%] SOx, dust : less than the detection limit
Consumption fuel	City gas : 22m3/h(Normal) Digestion gas : 44m3/h(Normal)
Operating method	Fully automated / system linkage / Self-sustained operation
Volume W x L x H	2.2m (W) x 5.6m(L) x 3.4m(H)
Weight	15ton (Digestion gas-fed type 16ton)

◆Application

Fuel cell power system can be applied to various applications as follows;



**Installation in Practice or Schedule**

- Hospital
- Hotel
- Office building
- Sewage disposal plant
- College

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