

# Solid-Oxide Fuel Cell



**WIP!**  
This page is a **Work In Progress**. You can help out by adding more information to the page.

The **Solid-Oxide Fuel Cell** (SOFC) is a EV tier multiblock that oxidize gas to generate electricity without causing pollution. There are two variants of this multiblock; Mk I and Mk II. It can consume up to 40,960 EU worth of fuel for Mk I and 491,520 EU worth of fuel for Mk II, both with up to 100% efficiency each second. Both output steam and requires oxygen input alongside with gas fuel to run. Do note that the Mk II's steam production requires the SOFC to heat up completely first before running it, otherwise it will explode. Unlike what Mk I output, Mk II instead output superheated steam.

This multiblock is more efficient at generating electricity and consuming the fuel compared to the single block generators, such as Gas Turbines. SOFC can generate much more power than Large Gas Turbine when it reaches 100% efficiency.

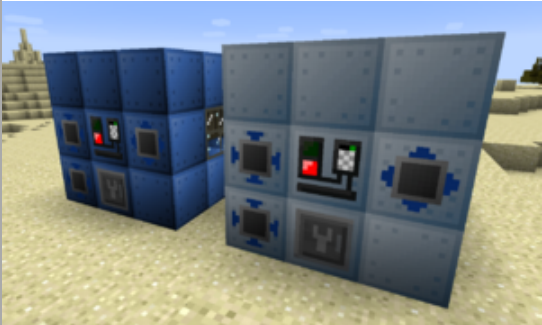
## Construction

The SOFC (Mk I and Mk II) is 3x3x5 in size with no space inside the multiblock. Only two blocks that are required to be placed in specific position are the controller itself and dynamo hatch, rest can be placed anywhere in the SOFC casings. Note that the quest and multiblock structure blueprint do not tell you that you do need a dynamo hatch and buses. These hatches are required to be formed, see the requirement list below for Mk I and Mk II.

### Requirement for Mk I

- 1 Solid-Oxide Fuel Cell Mk I
- 3 YSZ Ceramic Electrolyte Unit
- 6 Reinforced Glass

### Solid-Oxide Fuel Cell



Mod	GregTech
Relevant Quest	Solid-Oxide Fuel Cell Mk I, Solid-Oxide Fuel Cell Mk II
Tier	EV
Size	3x3x5 (WxHxL)

- 1 Maintenance Hatch
- 1 EV Dynamo Hatch
- 2 Input Bus Hatch
- 1 Output Bus Hatch

## Requirement for Mk II

- 1 Solid-Oxide Fuel Cell Mk II
- 3 GDC Ceramic Electrolyte Unit
- 6 Reinforced Glass
- 25 Robust Tungstensteel Machine Casing
- 1 Maintenance Hatch
- 1 LuV Dynamo Hatch
- 2 Input Bus Hatch
- 1 Output Bus Hatch

## Top Layer

All machine casings, can add any kind of hatch to this layer.

## Middle Layer

Place Controller at the end of SOFC and a dynamo hatch at another end of SOFC. Must be in between of YSZ/GDC blocks. 6 Reinforced Glass must be on both side of YSZ/GDC blocks while the Controller and a dynamo hatch being completely surrounded by machine casings and/or hatches.

## Bottom Layer

All machine casings, can add any kind of hatch to this layer.

## Tips

---

- The *Solid-Oxide Fuel Cell Mk I* quest mentioned that it produces 4 HV amps per tick. That is true, but it is misleading when deciding what dynamo to use because you might think it mean you can use HV dynamo hatch. **DO NOT USE HV DYNAMO HATCH! IT WILL EXPLODE AS SOON AS 512 VOLTAGE THRESHOLD IS PASSED WHEN GENERATING!** The actual minimum dynamo Mk I can use and provide power is **EV Dynamo Hatch**.

- Overproducing benzene is strongly recommended as this multiblock will be consuming more gas fuel constantly. Consider in getting a big tank to store your gas fuel to avoid struggling at getting your base powered. 1 SOFC and 1 (large) Steel Tank full of benzene is more than enough for non-automated machines, especially the EBF.
- Nitrobenzene is by the far most efficient with SOFC. As soon as you have access to the nitrobenzene, switch your gas fuel to them as soon as possible otherwise you will struggle with power in later tiers.
- Be sure to pair SOFC with steam turbines for more power and/or distillery for cracking! Because SOFC can produce steam in large quantities in shortest time compared to other methods.

---

Retrieved from "[https://wiki.gtnewhorizons.com/wiki/Solid-Oxide\\_Fuel\\_Cell?oldid=12123](https://wiki.gtnewhorizons.com/wiki/Solid-Oxide_Fuel_Cell?oldid=12123)"