

# Long term storage – EFOY Pro Series

After a successful operation there are occasionally time periods where the fuel cell is not required for a year or longer. For this scenario we here’s a short guide for long term storage and important information regarding successful function after this storage time.

## Storage Temperature

Firstly, it is very important to store the EFOY Pro fuel cell within the technical specification of the fuel cells.

Storage temperature	+1°C to +50°C / +34°F to +122°F
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These storage temperate ranges are the maximum limits where the EFOY Pro units can be stored. Similar to humans it is also better for the fuel cells to be stored at comfortable room temperature ranges of around +20 °C / +68 °F.

There are also hints in the user manual for long term storage:

### 6.2 Long term storage



#### CAUTION!

Store the EFOY Pro fuel cell in a cool place, but at a temperature over 1 °C / 34 °F. (See also storage temperature in chapter 3.3 "Specifications" on page 16)

If the EFOY Pro fuel cell is exposed to temperatures below 0 °C / 32 °F without connected batteries and sufficiently filled fuel cartridges, it must be defrosted for approximately 24 hours at room temperature before use.

After long term storage over 6 month SFC recommends to check the functionality of the EFOY Pro fuel cell before installation. For that purpose connect the fuel cell to a battery to run a charging cycle. A charging cycle can last several hours. After successfully passing the charging cycle run the transport lock procedure. Press the [menu] and [▼] button on the operation panel at least 3 seconds and follow the instructions on the display.



#### CAUTION!

Note that liquid can drop out of the exhaust hose tube when running the transport lock procedure.



#### INFO:

Use a suitable box for storing the EFOY Pro fuel cell, e.g., the box in which it was delivered. The EFOY Pro fuel cell must be stored in an upright position only.

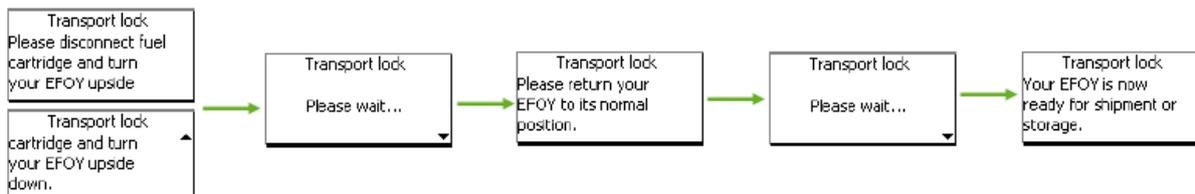
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## Secure Transportation Mode

Also similar to humans the EFOY fuel cells don't feel comfortable in cold areas. Therefore for long term storage or for transportation the implementation of the transport lock procedure is also applicable, especially in the case where storage temperature above +1 C° / +34 °F cannot be assured even for a short time period.



🔌 Press the [menu] and [▼] button on the remote control panel at least 3 seconds



For more detailed information please take a look for the guide “Secure Transportation Mode - Protection for transportation during winter”.

Also put on the red protection cap on the exhaust gas outlet to protect it from impurities like dust, dirt or insects during storage.

## Conclusion

Overall the long term storage of an EFOY Pro fuel cell is not a problem for the unit, our intensive long term tests confirm this. However it can occur that the EFOY Pro fuel cell will initially not provide the full output power, but this will recover after a few operation hours.

Therefore it is important after several months of storage to have a trail run for some hours before commissioning the EFOY Pro fuel cell to an application or into the field.

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### FAQs:

#### **Q: What to do after long term storage of EFOY fuel cells**

A: After the prolonged storage (> 6 months) of devices there may be a reduced output power (> 90%) during the first start. However, after several hours (<3-5h), the EFOY will attain full power output. The EFOY will not display an error due to the reduced power output.

#### **Q: Is it harmful for the fuel cell to be stored for a longer time period?**

A: No, the fuel cell can dry out but it will recover again after the next start.

#### **Q: Why shouldn't the fuel cell be stored below +1 °C / +34 °F?**

A: The fuel cell contains a mixture of water and methanol which is fed into the stack and to the membranes. In the stack a certain amount of fluid can remain even after implementation of the secure transportation mode. If this fluid freezes for a longer time period it can harm the membrane and the stack, which directly affects the output power.

#### **Q: Will the output power still be as it was before?**

A: Yes, after a short period of time in operation the output power will regain the level it was before. Only if the fuel cell froze during storage the output power may be reduced.

#### **Q: What is the secure transportation mode?**

A: The secure transportation mode is implemented to remove the water-methanol mixture from the important components out of the system, so there is no fluid left in the fuel cell or stack. This is necessary when a unit is transported at temperatures below +1 °C / +34 °F. We perform this procedure with every fuel cell we produce before shipping.

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