





# Fart Concealment Container (FCC) for space, designed to handle gases like methane $(CH_4)$ , carbon dioxide $(CO_2)$ , and hydrogen sulfide $(H_2S)$ .

The Fart Concealment Container for Space

### **Concept Overview:**

The Fart Concealment Container (FCC) is designed to manage and control the buildup of gases in a closed environment, such as a spacecraft. It operates by equalizing the pressure between the container and the external environment, preventing the uncontrolled release of gases. Once the container reaches a threshold pressure, it can release the gases in a controlled manner, potentially aiding in maneuvering the spacecraft when other resources are limited.

#### **Key Features:**

- 1. **Equalization Mechanism**: The FCC is equipped with a pressure equalization mechanism. This ensures that the pressure inside the container matches the surrounding environment before any new gases are introduced.
- 2. Controlled Release: Once the internal pressure exceeds a predefined level, the FCC can release the gases in a controlled manner. This controlled release can be used for various purposes, such as minor adjustments in the spacecraft's position.
- 3. Versatile Design: The FCC can handle multiple types of gases, including methane, carbon dioxide, and hydrogen sulfide, ensuring a comprehensive solution for gas management in space.

## **Detailed Explanation of Gas Management**

Methane (CH<sub>4</sub>), Carbon Dioxide (CO<sub>2</sub>), and Hydrogen Sulfide (H<sub>2</sub>S):

- 1. Methane (CH<sub>4</sub>): As a major component of the gases produced by human waste, methane can be collected and stored in the FCC. When the pressure inside the container reaches the threshold, the methane can be released in a controlled manner, potentially assisting in propulsion.
- 2. Carbon Dioxide (CO<sub>2</sub>): This gas, generated from various processes within the spacecraft, can also be managed by the FCC. The equalization mechanism ensures that CO2 does not build up to harmful levels, maintaining a safe environment for the crew.
- 3. Hydrogen Sulfide (H₂S): Known for its unpleasant odor, hydrogen sulfide can be effectively contained within the FCC. The controlled release mechanism ensures that H₂S is not released in a manner that could affect the spacecraft's systems or crew.

## **Practical Applications:**

The FCC can be utilized in different compartments of the spacecraft to manage various gases efficiently. By maintaining controlled pressure levels and releasing gases in a managed way, it can contribute to the overall sustainability and safety of the mission.

#### Conclusion: