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DESIGN OF OXYGEN GENERATION ASSEMBLY FOR SPACE STATION

Abstract

Oxygen generation assembly was an important system to provide oxygen on long duration human space station. It was an complicated system including electrolyzer, oxygen-water separator, oxygen cleaner and other subsystems. New method was need to supply water for electrolyzer and separate oxygen from oxygen/water attributed to the complexity of the flowing and separating of gas-liquid under micro/zero gravity. In this work, solid polymer electrolyzes with static water supplier was used as electrolyzer, and a static oxygen-water separator was also proposed. The model was estimated to supply oxygen of 3.0 kg/day for 4 astronomers.