线检查阀。装满的收集袋从其软管上断开并准备使用。来源袋可以被重新装满以生产多升液体，或者源袋可以被替换为插入较大可饮用水源的输入管，如果装置有人看管。该装置在所有朝向中独立于任何重力场运行。

在制作IV液体的同时，设备还生产医疗级水，可以用于注射用药物的混合，重新制备冷冻干燥的血液制品，或者用于伤口的润湿或冲洗。潜在的全球使用预计将在限制资源、储存或补给的医疗活动中使用，如军事作战、人道主义救援行动、潜艇、商业游轮等。

这项工作由Philip J. Scarpa of Kennedy Space Center和Wolfgang K. Scheuer of Tiger Purification Systems, Inc.进行。欲了解更多信息，请联系Dr. Philip Scarpa at (321) 867-6386或Philip.J.Scarpa@nasa.gov。

A report describes an adaptation of a filter assembly to enable it to be used to filter out microorganisms from a propulsion system. The filter assembly has previously been used for particulates >2 µm. Projects that utilize large volumes of nonmetallic materials of planetary protection concern pose a challenge to their bioburden budget, as a conservative specification value of 30 spores/cm³ is typically used.

Helium was collected utilizing an adapted filtration approach employing an existing Millipore filter assembly apparatus used by the propulsion team for particulate analysis. The filter holder on the assembly has a 47-mm diameter, and typically a 1.2-5 µm pore-size filter is used for particulate analysis making it compatible with commercially available sterilization filters (0.22 µm) that are necessary for biological sampling.

This adaptation to an existing technology provides a proof-of-concept and a demonstration of successful use in a ground equipment system. This adaptation has demonstrated that the Millipore filter assembly can be utilized to filter out microorganisms from a propulsion system, whereas in previous uses the filter assembly was utilized for particulates >2 µm.

This work was done by James N. Benardini, Robert C. Koukol, Wayne W. Schubert, Fabian Morales, and Marlin F. Klatte of Caltech for NASA’s Jet Propulsion Laboratory. Further information is contained in a TSP (see page 1).

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