

# Billups-rothenberg 便携式微生物模块化培养室



在过去二十年里，模块化培养室已经广泛于全世界。它可以自定义设定混合气体和温度这两个组织培养条件。这个密闭的培养室已经证明是非常安全和可靠的，应用于体外受精、艾滋病毒的分离、建立低氧、高氧和正常含氧量的环境条件，器官培养和大量细胞株的培养。每一个单元都是一个独立的培养室，可以建立所需的培养室拥有良好的气密性和快速的气体交换特性，快速经济的形成一个稳定组织培养环境（包括气体浓度和湿度）。

# 培养室

- 主体材质是透明的聚碳酸酯，有非常高的透视性和耐久性
- 培养室可以堆叠摆放、内扣连接后振荡培养，作为储存室节省空间
- 内置多用途托盘，方便放置培养皿、试管、组织培养瓶、微量板等
- 方便简单的盖子和 Marman 夹设计，使实验操作便捷
- 所有组件都无毒，可酒精消毒
- 培养室内部夹角无缝隙连接便于清洗和去污
- 圆柱腔的几何形状提供了极好的气体分布
- O 型圈有着完美的气密性密封



## 尺寸

外径：直径 31cm 高 11cm

内径：26.7cm

板间间隙：2.3cm

## 容量

84 个 35mm 培养皿

27 个 60mm 培养皿

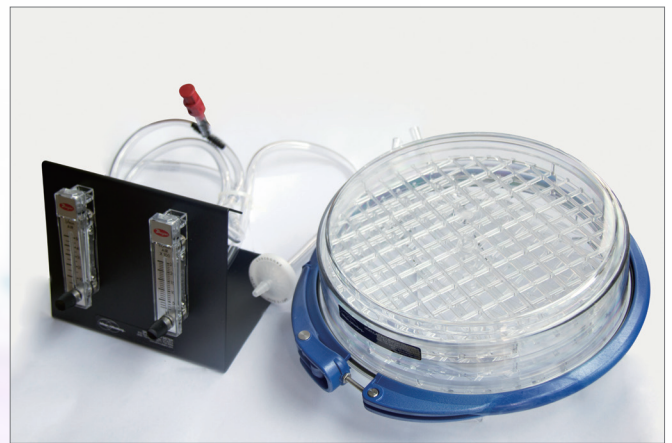
12 个 100mm 培养皿

9 个 96 孔培养板

18 个 25cm<sup>2</sup> 组织培养瓶

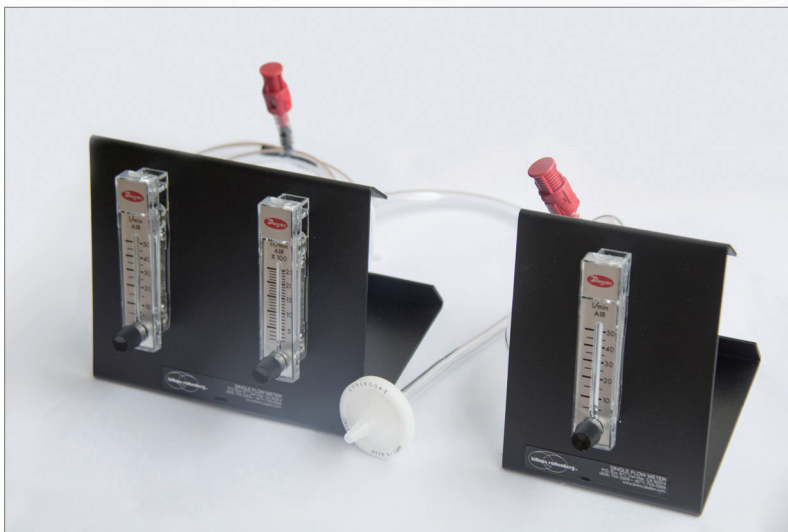
## 使用方法

- 模块化培养室可以轻松的实现缺氧环境
- 将组织培养细胞放入培养室
- 连接好流量计部分（可选）
- 用所需的混合气体冲洗 5 分钟左右
- 密封培养室并将其放在 37 °C 的实验室或者其他环境中进行培养
- 一旦密封，这将是一个完全封闭的气密系统，可以十分方便的通过培养室上部的两个气口来监视和调整培养室内的氧分压



## 可选附件

### 流量计



- 流量计包括单流量计和双流量计 2 种，能帮用户确定知道何时获得 100% 气体交换，流量可在 3~25L/min（或 0.1~10 LPM）之间任意调节。单流量计被用来控制预混合气体的流率；双流量计除了控制气体流率还可以用来混合气体（双流量计被用作检测与氧气检测器组合使用）。每个培养室的体积大约为 8L。
- 单流量计用于控制预混合气体的流速时为每分钟 1.0~25L（或 0.1~10LPM）。
- 双流量计通常用于需要对 O<sub>2</sub> 和 CO<sub>2</sub> 的浓度进行调整以确定气体混合后效果的实验。此系统有两个流量计，一个为 0.1~1.0LPM，另一个为 0.1~10LPM，有两个不同的管口，允许气体从两个不同的气瓶输入。当流量计为 0.1-1.0 LPM 流量计的进气口被关闭时，双流量计可以以相同的方式作为单个流量计可用于预混合气体。

## 使用本设备发表的高水平文章

- 1. Two Novel Missense Mutations of the HFE Gene (I105T and G93R) and Identification of the S65C Mutation in Alabama Hemochromatosis Probands\* 1**  
[PDF] from Ibtex.com JC Barton, R Sawada-Hirai, BE Rothenberg... - Blood Cells, Molecules, ..., 1999 - Elsevier  
... Probands \*1. James C. Barton a , f1 , Ritsuko Sawada-Hirai b , Barry E. Rothenberg c and Ronald T. Acton c. a Southern Iron Disorders Center, Birmingham, Alabama. b **Billups-Rothenberg, Inc. San Diego, California. c Immunogenetics ...**  
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- 2. Preconditioning of the tumor vasculature and tumor cells by intermittent hypoxia: implications for anticancer therapies**  
[HTML] from aacrjournals.org P Martinive, F Defresne, C Bouzin, J Saliez, F Lair... - Cancer research, 2006 - AACR  
... To reach and control hypoxia conditions, cells were placed in a modular incubator chamber (**Billups Rothenberg, Inc., Del Mar, CA**) and flushed for 10 minutes with a gas mixture of 5%CO<sub>2</sub> -95% N<sub>2</sub> ; the final medium pO<sub>2</sub> value was consistently measured below the 0.5% to 1 ...  
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- 3. The pH-dependent membrane association of procathepsin L is mediated by a 9-residue sequence within the propeptide.**  
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- 5. Beta2 knockout mice develop parenchymal iron overload: A putative role for class I genes of the major histocompatibility complex in iron metabolism**  
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- 7. Isoflurane neuroprotection in hypoxic hippocampal slice cultures involves increases in intracellular Ca<sup>2+</sup> and mitogen-activated protein kinases**  
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- 8. Limitations to oxygen diffusion and equilibration in in vitro cell exposure systems in hyperoxia and hypoxia**  
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- 9. In vivo genetic profiling and cellular localization of apelin reveals a hypoxia-sensitive, endothelial-centered pathway activated in ischemic heart failure**  
[HTML] from physiology.org AY Sheikh, HJ Chun, AJ Glassford... - American Journal of ..., 2008 - Am Physiological Soc... Plates were placed in a humidified **Billups-Rothenberg modular incubation chamber (model MIC-101, Billups-Rothenberg, Del Mar, CA), charged with a gas mixture of 1% O<sub>2</sub> -5% CO<sub>2</sub> -94% N<sub>2</sub>, and sealed before placement in a tissue culture incubator. ...**  
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- 10. Proteomic analysis of plasma membrane from hypoxia-adapted malignant melanoma**  
LH Stockwin, J Blonder, MA Bumke... - Journal of proteome ..., 2006 - ACS Publications  
... The cells were then placed into a 37 °C humidified incubator (normoxia) or into a modular incubator chamber (**Billups Rothenberg, Del Mar, CA**) and flushed for 20 min with a mixture of 1% O<sub>2</sub>, 5% CO<sub>2</sub>, and 94% N<sub>2</sub> (hypoxia). ...  
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