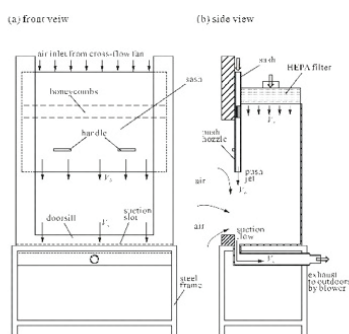
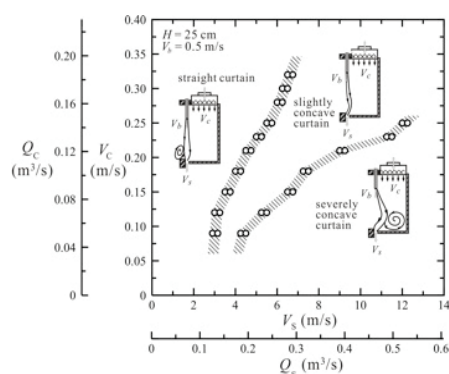


Title	Air curtain-isolated biosafety cabinet(BSC)			
Abstract	1. The air curtain-isolated BSC applies a specially designed air curtain forming an air-isolator at an opening of a door to isolate air flows inside and outside the BSC, to prevent circulations in the BSC, and to prevent contamination leakage from the BSC. 2. In proper operating condition the air curtain-isolated BSC could fit NSF/ANSI 49.			
Description	1. Tradition BSC still has some problems, like insufficient suction amount, improper suction slot position, improper air supplier position, uneven flow rate at front opening, bad opening shape design, etc. The air curtain-isolated BSC has an air curtain to isolate air inside and outside the BSC. A most preferable slight concave curtain of air can be obtained. With the curtain, neither contamination in the BSC leaks out nor outside contamination enters the BSC. Furthermore, no circulation is formed in the BSC by blowing the air curtain. Thus, the operator using the BSC and the product in the BSC are both well protected. 2. There characteristic flow modes of the air curtain-isolated BSC, (1) slightly concave curtain, (2) severely concave curtain, and (3) straight curtain, are identified. The slightly concave curtain shows stable flow field and smooth flow pattern in the cabinet. The prominent feature is that no recirculation flow structures are found. The in-cabinet pressure measurements show slightly negative pressure appearing in the cabinet when the biological safety cabinet is operated in the regime of slightly concave curtain. By employing the tracer-gas concentration measurement to simulate NSF/ANSI 49-2004 standard method to test the performance of the air-curtain biosafety cabinet. The tracer-gas concentration measurements present extra-ordinarily satisfactory results.			
Applicable Targets	Microbiological experiments lab.			
Patent Status				
	EP	Invention	EP2014365B1	2006/11/2
	R.O.C.	Utility	M326441	2007/6/1
	Japan	Invention	4775595	2007/6/1

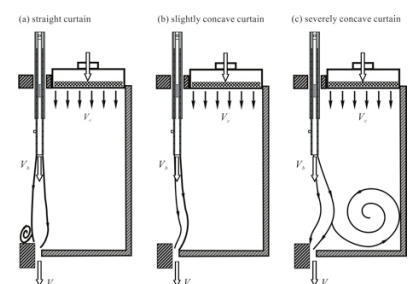
Discription & Figures



▲ The perspective view showing of the air curtain-isolated BSC



▲ The characteristic flow modes of the air curtain BSC in different operation condition



▲ The characteristic flow modes of the air curtain BSC