

- :

ASHRAE 110

:
fgolbabaei@sina.tums.ac.ir:

/ / : // :

SF6 ()

()

ASHRAE 110-95

% / (fpm)

($p= /$)

($p= /$)

% / (/ ppm) ASHRAE 110

(% /)

(% /)

(% /)

:

:

()

:

Airflow

: (

TA5

11.3.2008

(ASHRAE)

(Hitching and Mapin 1998)

ft² (mm × mm)

(Mamie et al. 1999)

(Hitching and Maupin 1997)

: (

kpa (psi)

ASHRAE110

() (mm)
 ± (± mm)
 ± (± mm)

/ ppm)
) ()
 () (p = /) ()
 ()

SF6

MIRAN 1BX

FOXBORO

% / fpm / - ppm
 % / (p = /) ASHRAE 110

T-test

ASHRAE 110 / ppm
 (p = /)
 () % /

: (

fpm

() (p = /)
 (fpm) % /
 (/ ppm)

Hitching Smith : (

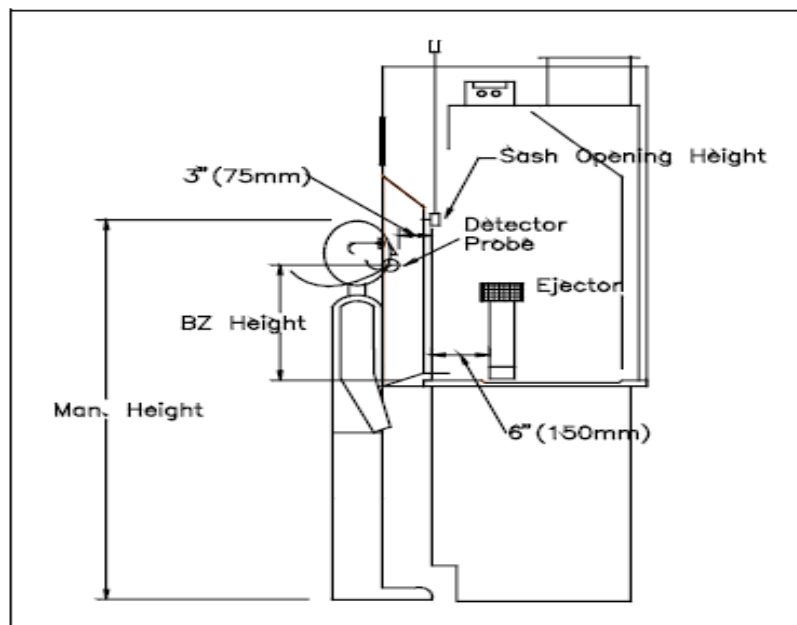
Smith 1999;)

(Hitching and Maupin 1997

Hitching

.(Fahim 2006)

.(Pamela et al.1999)



80 fpm		(fpm)			
t	df	p			
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/ ppm					
t	df	p			
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Mamie, X., Bell, G., Sartor, D., 1999. Low Flow Fume Hood Project : A Look at Safety Containment Requirement , and Test Method.
Maupin, K. and Hitching, D.T., Reducing Employee Expousure Potential Using the ANSI / ASHRAE 110 Method of testing

Fahim, M.H., 2006. Advancing of using the ANSI / ASHRAE 110 -1995 Tracer Gas Method Versus the ANSI / AIHA.
Hithing, D.T. and Maupin, K., 1997. Using the ASHRAE 110 test as a TQM tool to improve laboratory fume hood performance.

Pamela, L., Greenley, L. and Diberadisis J.,1999. Member of ASHRAE1999 "Containment Testing for Occupied and Unoccupied Hoods".

Smith, T., 1999. Use of average face velocity as an indicator of laboratory hood performance. American Hygiene conference and Expo Abstracts. pp. 174.

performance of laboratory fume hood as a Diagnostic Tool “, AIHA Jornal 59 : 133 – 138 , 1998.

Memarzadeh, F., 1996. Methodogy for optimization of laboratory hood containment. National institutes Of Health Bethesda , Maryland.