



WORLD HEALTH ORGANIZATION
ORGANISATION MONDIALE DE LA SANTE

FIGURES TO SUPPLEMENTARY GUIDELINES ON
GOOD MANUFACTURING PRACTICES FOR
HEATING, VENTILATION AND AIR-CONDITIONING (HVAC)
SYSTEMS FOR NON-STERILE DOSAGE FORMS

APPENDIX TO MAIN GUIDELINES

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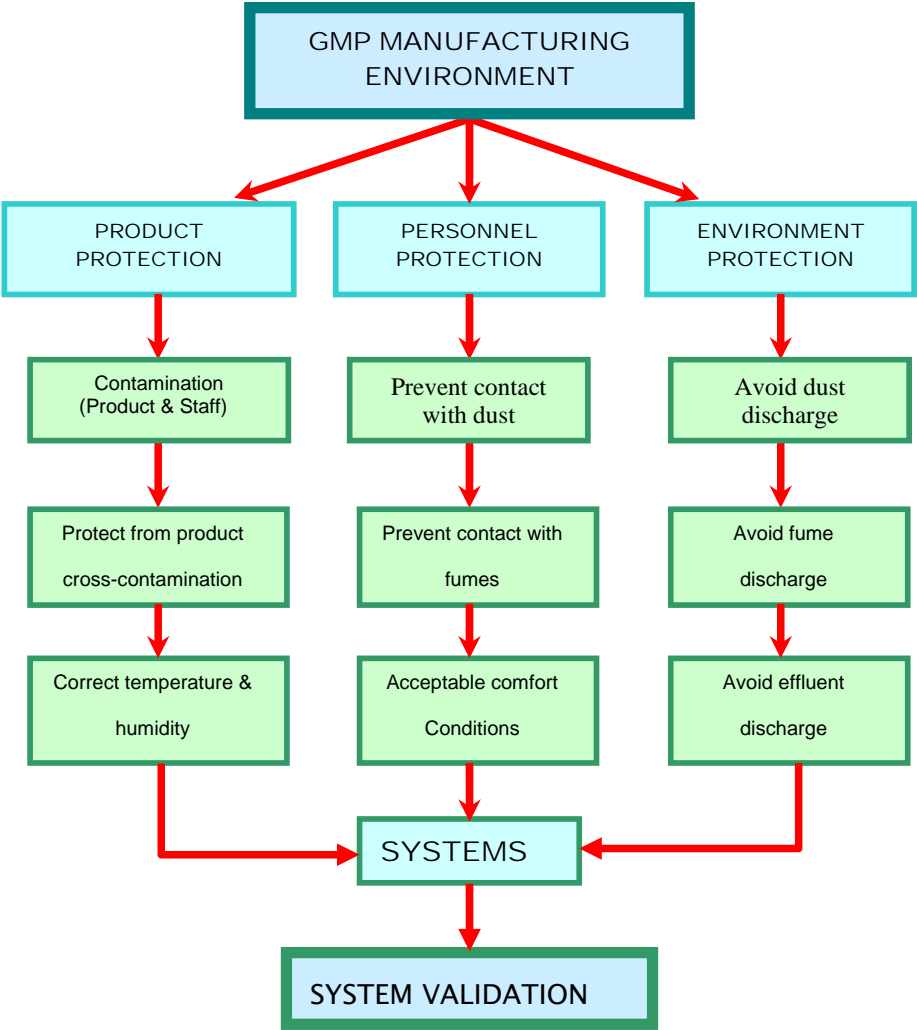
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APPENDIX

Figures referred to in the main body of the document, with the reference "See Appendix", are reproduced in chronological order below

FIGURE 1



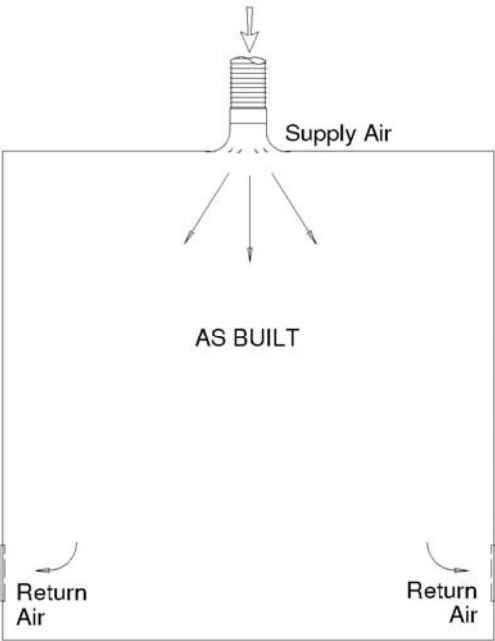


Figure 2

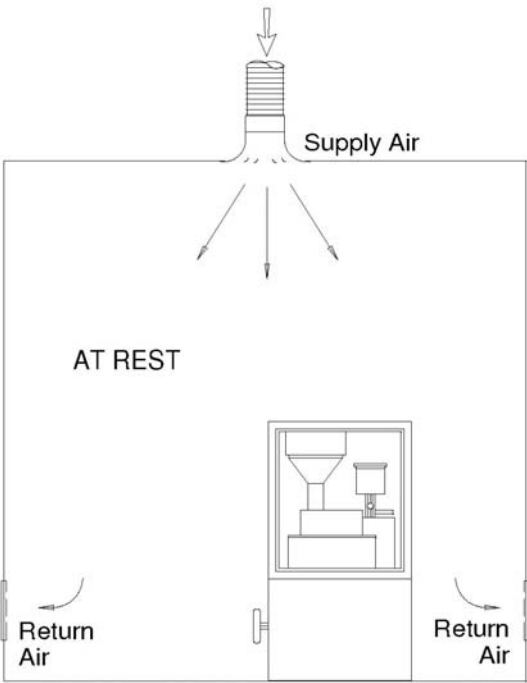


FIGURE 3

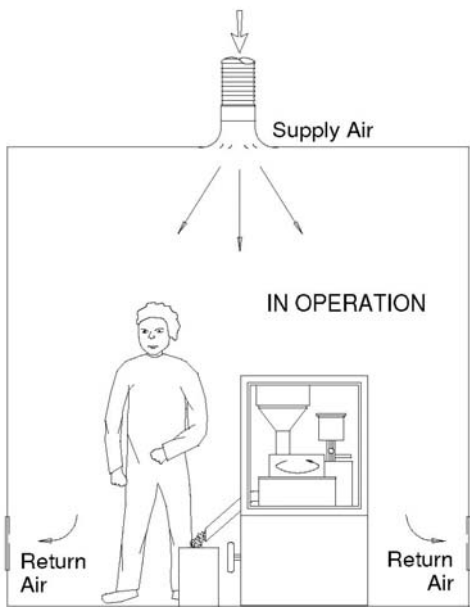


FIGURE 4

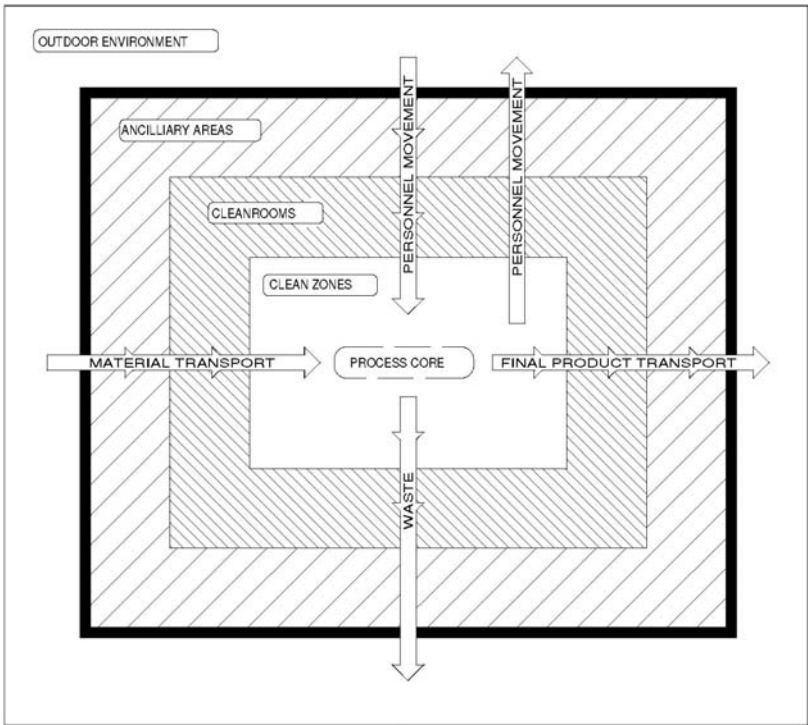


FIGURE 5
[Note from WHO Secretariat: in figure “clean rooms” will be changed “to “clean areas” in editing process]

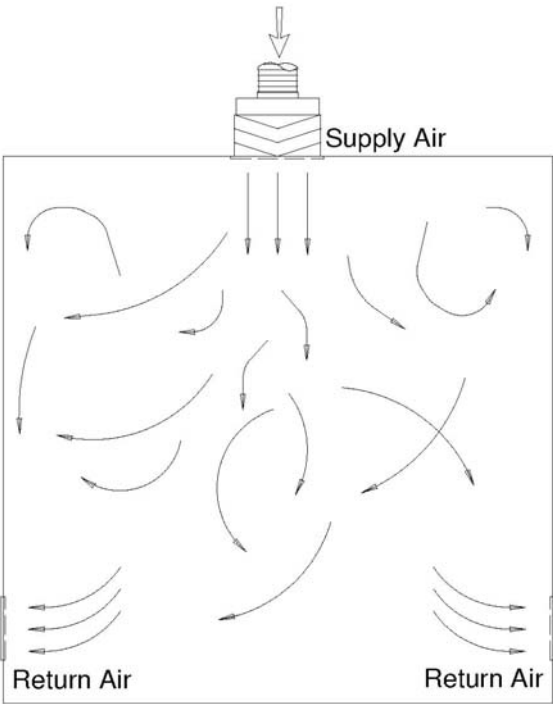


FIGURE 6

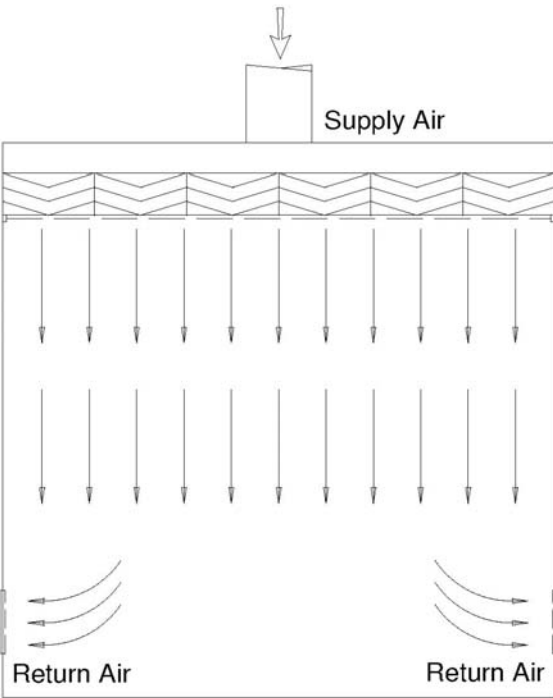


FIGURE 7

Figure 8 below gives a rough comparison between the different filter standards. [Filter classes should always be connected to the standard test method.]

APPROXIMATION OF EQUIVALENT FILTER STANDARDS

EU Class			% (Integral Value)	EN 779 & EN 1822
			99,99995	U16
			99,9995	U15
14			99,995	U14
13			99,95	H13
12				
11		%	99,5	H12
10		(Average)	95	H11
9		95	85	F9/H10
8		90	75	F8
		85		F7
7		80		
		75		
6		70		F6
		65		
		60		
		55		
5		50		F5
		45		
	%	40		
	(Average)	35		
4	95	30		G4
	90	25		
3	85	20		G3
	80			
	75			
2	70			G2
	65			
				G1

↑

Eurovent Class –
Eurovent 4/5 (2-9)
Eurovent 4/9 (2-9)
Eurovent 4/4 (10-14)

↑

Arrestance
%

↑

Dust Spot
Efficiency
ASHRAE 52/76
BS6540 Part 1
(1985)

↑

MPPS, DEHS
Aerosol
EN1822

↑

CEN/TC/195
WG1-G1-F9
WG2-H10-16

↑

EN 1822

↑

EN 779

Fig. 8 Comparison of filter test standards

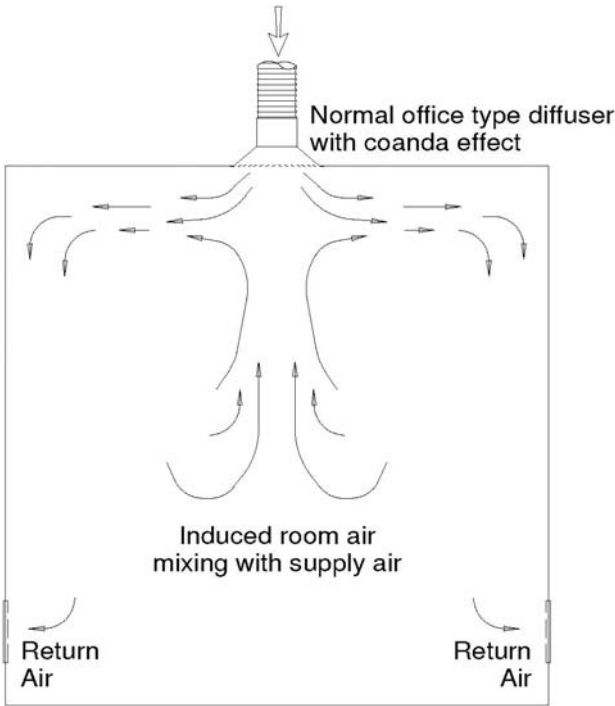


FIGURE 9

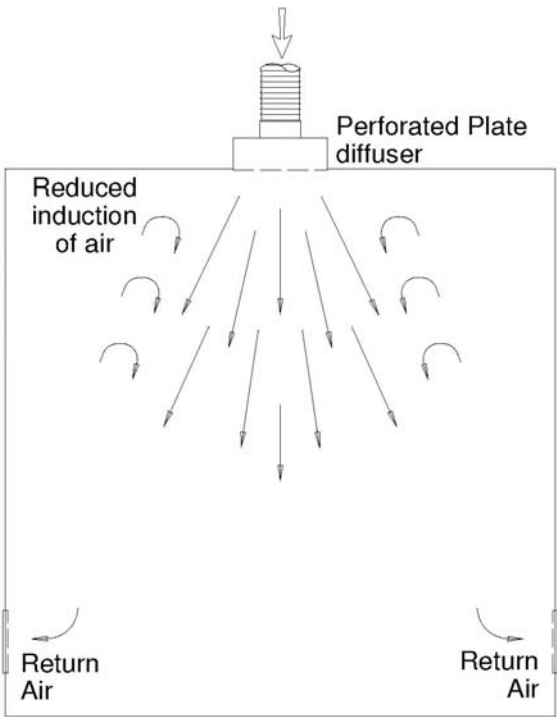


FIGURE 10

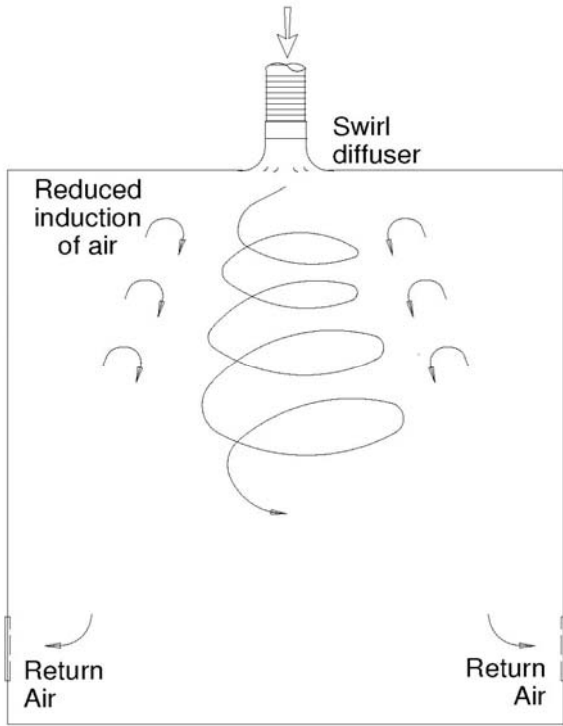


FIGURE 11

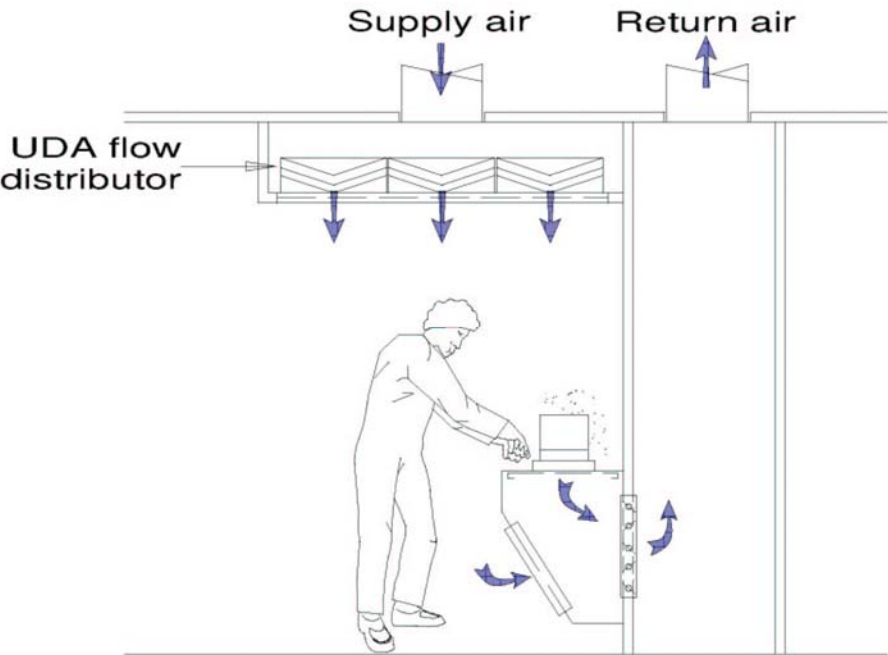


FIGURE 12

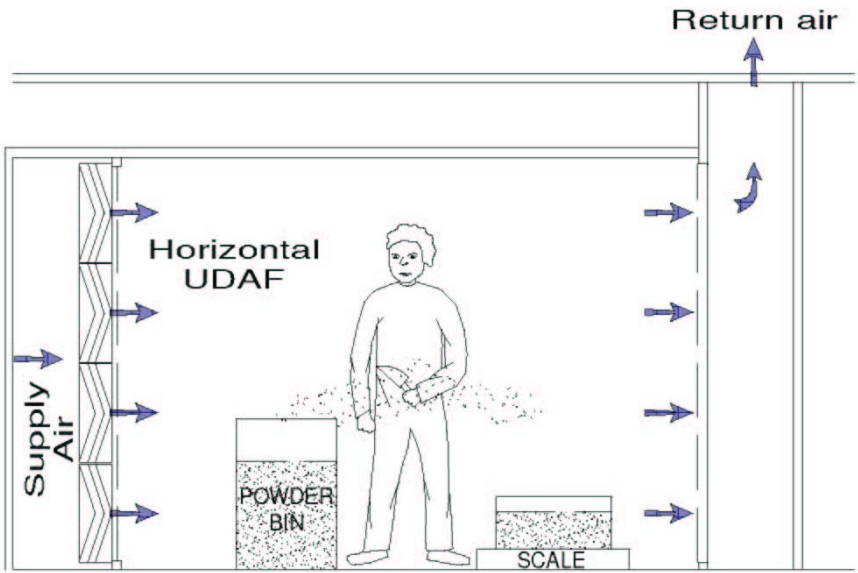
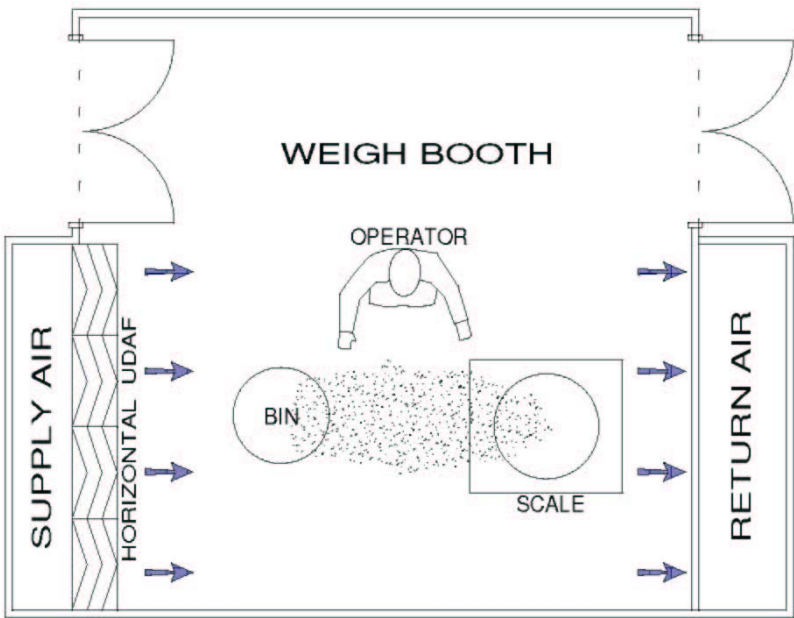


FIGURE 13

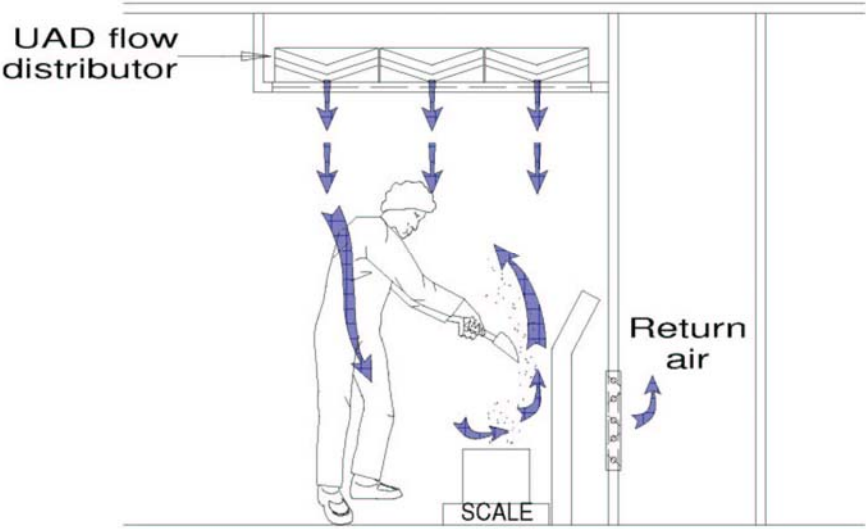


FIGURE 14

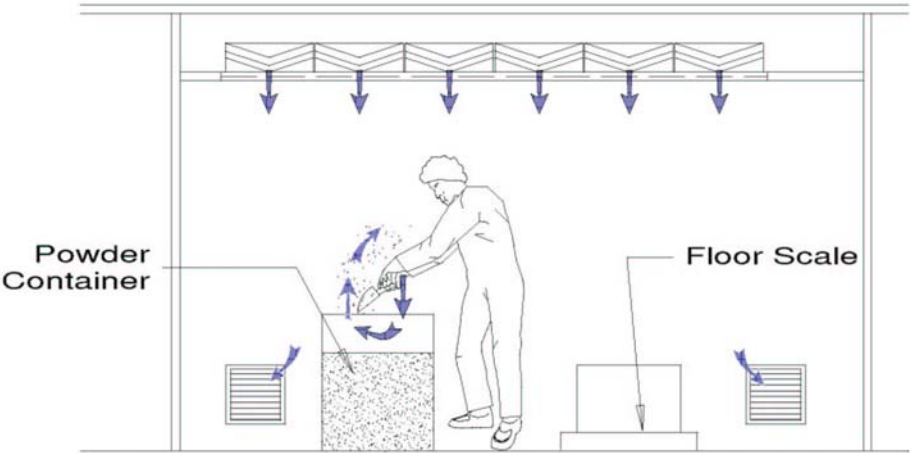


FIGURE 15

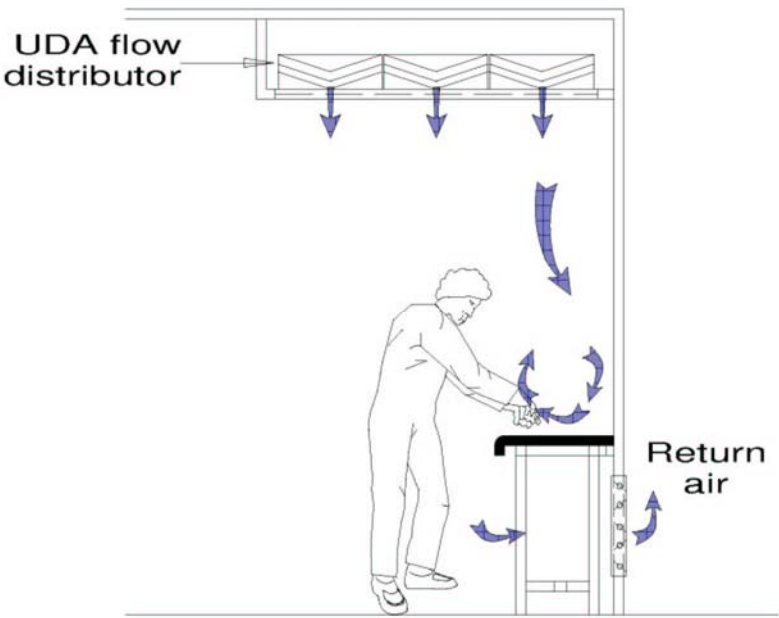


FIGURE 16

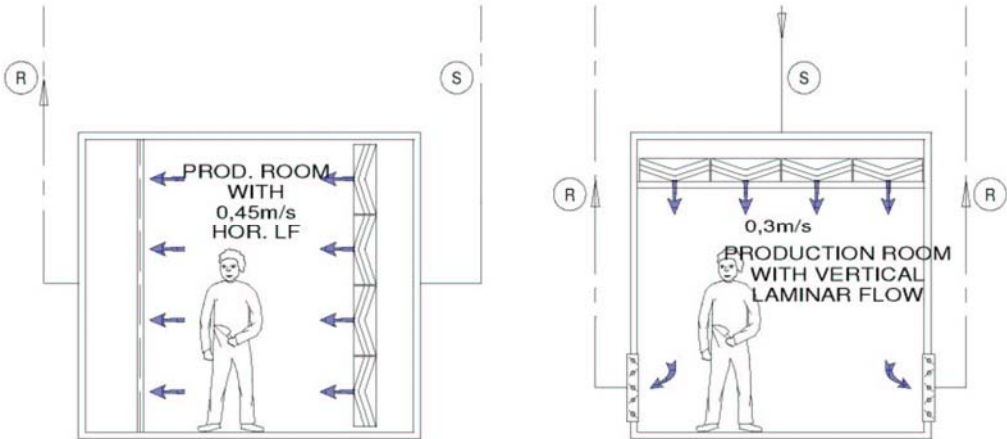


FIGURE 17

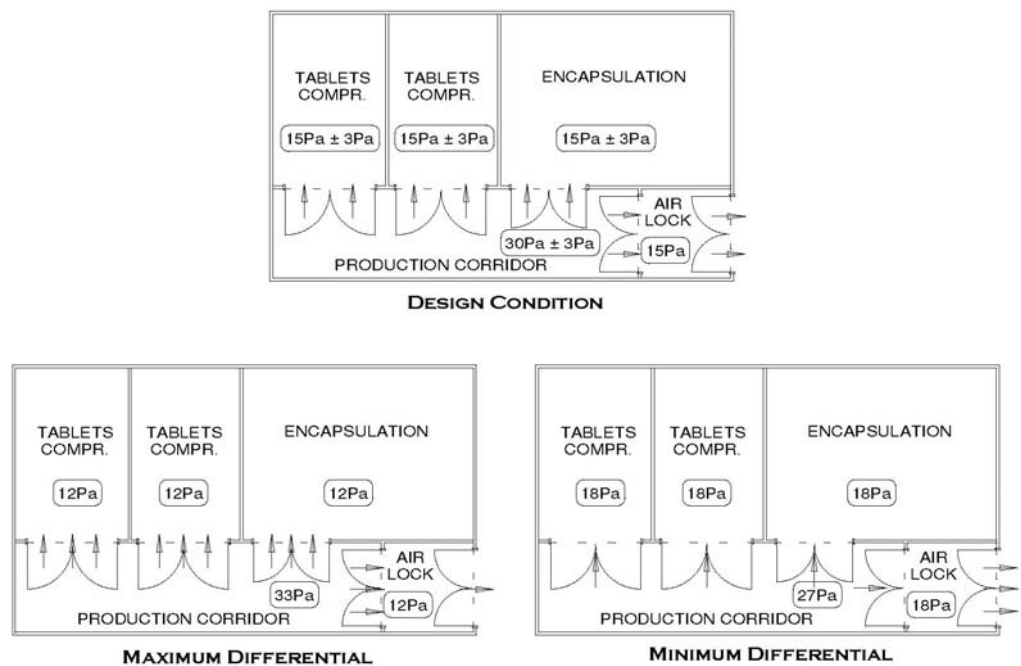


FIGURE 18

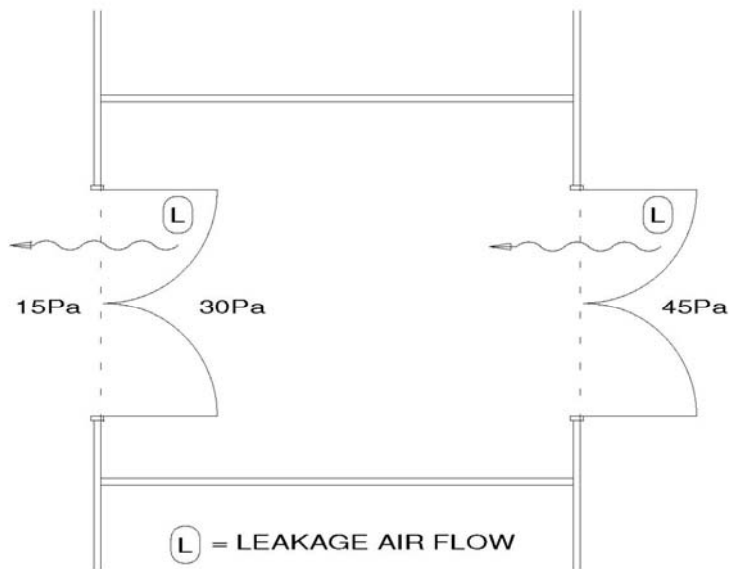


FIGURE 19

[Note from WHO Secretariat: will change figures to > 5 Pa, 15 Pa and 30 Pa to replace by 15, 30 and 45 Pa in editing process]

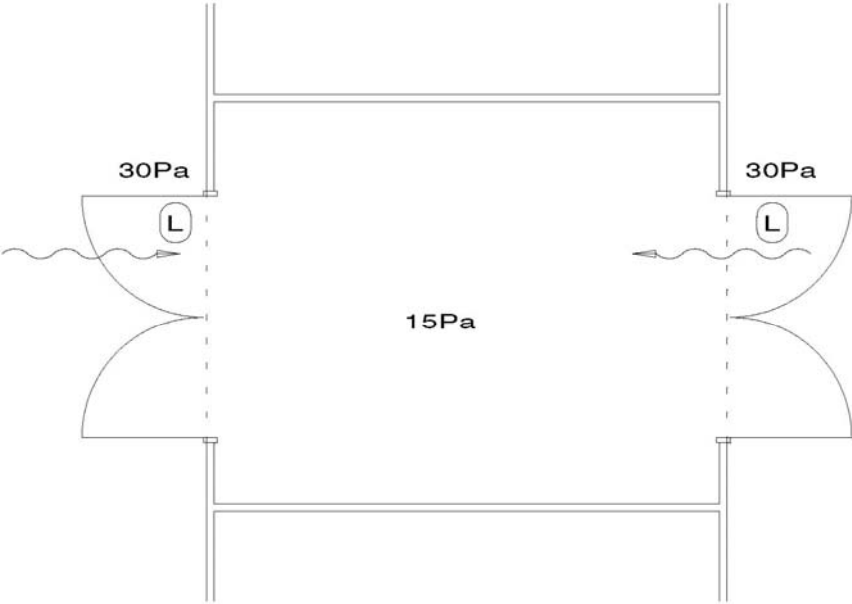


FIGURE 20

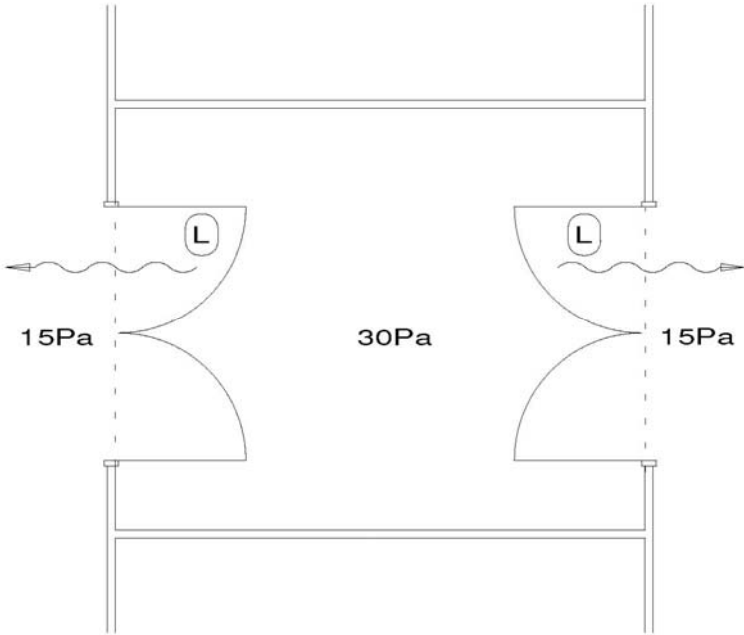


FIGURE 21

FIGURE 22

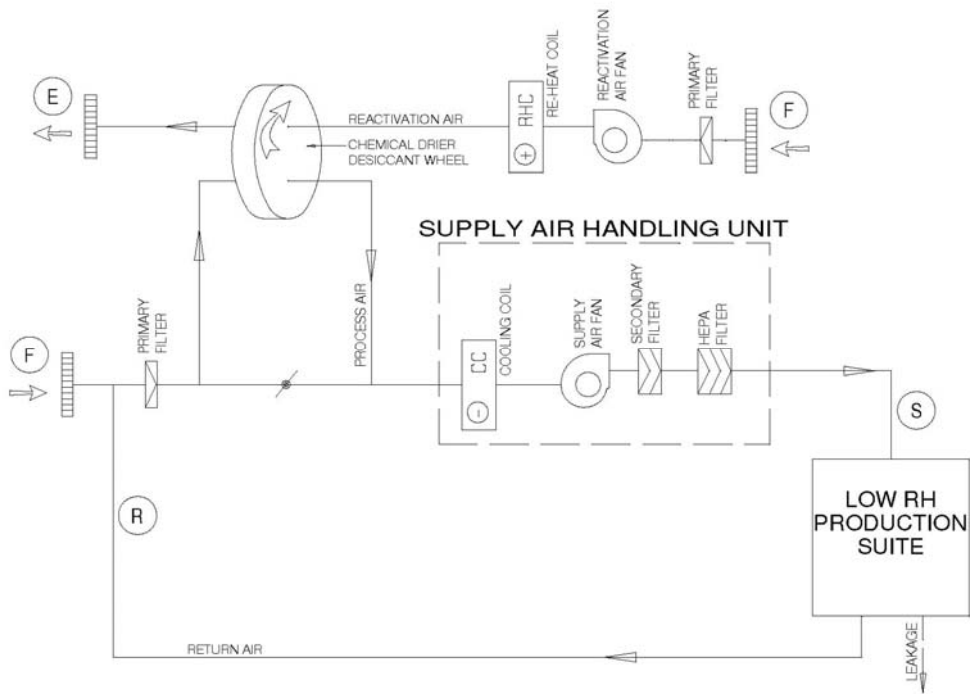


FIGURE 23

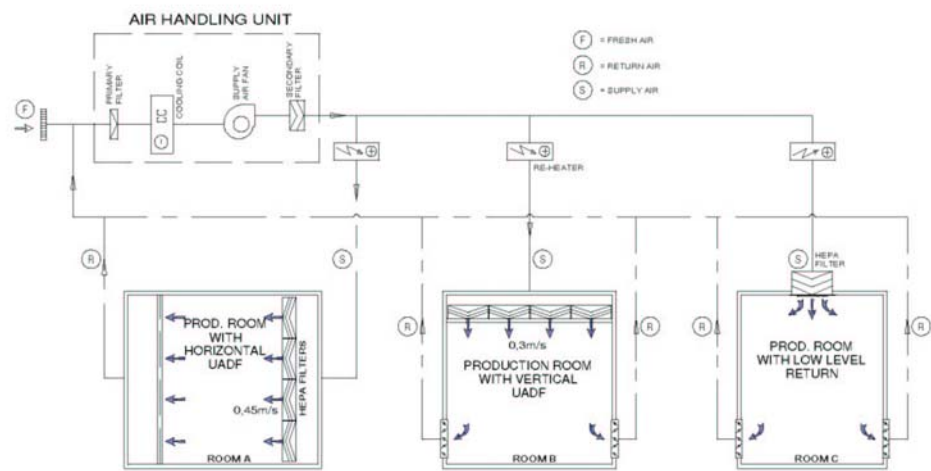


FIGURE 24

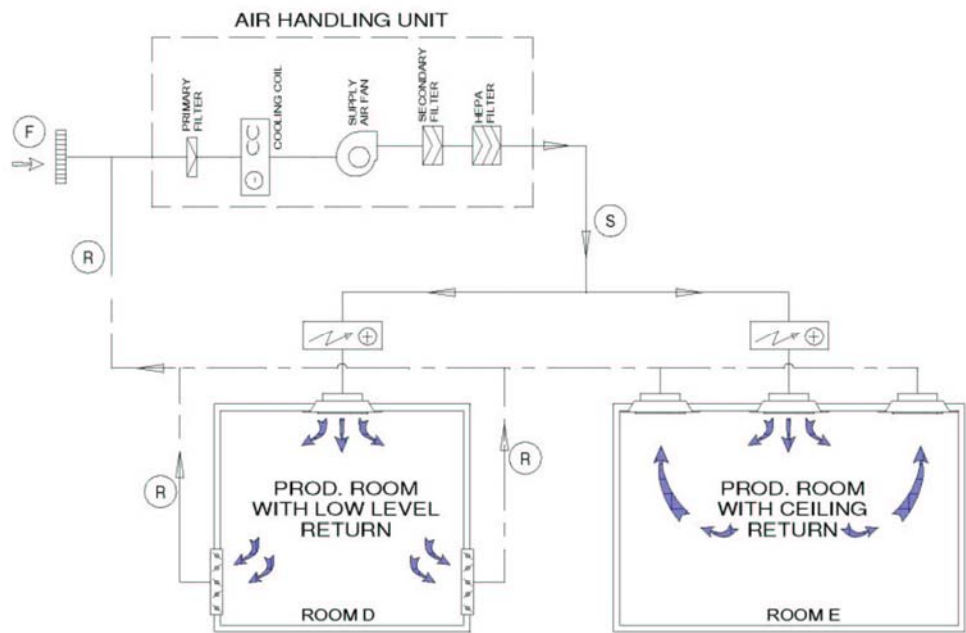


FIGURE 25

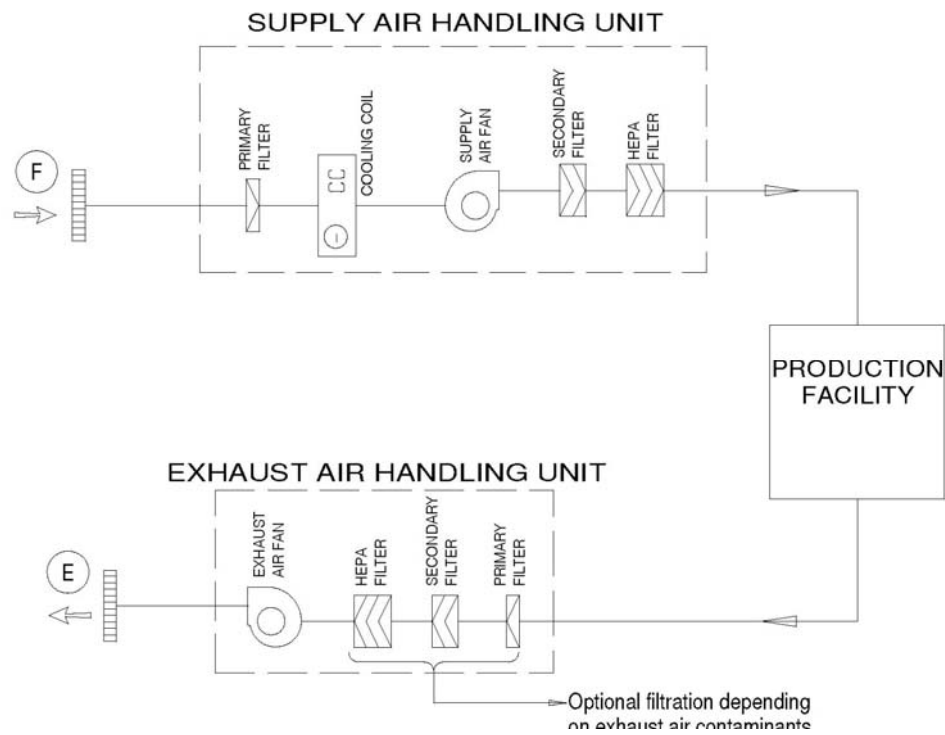


FIGURE 26

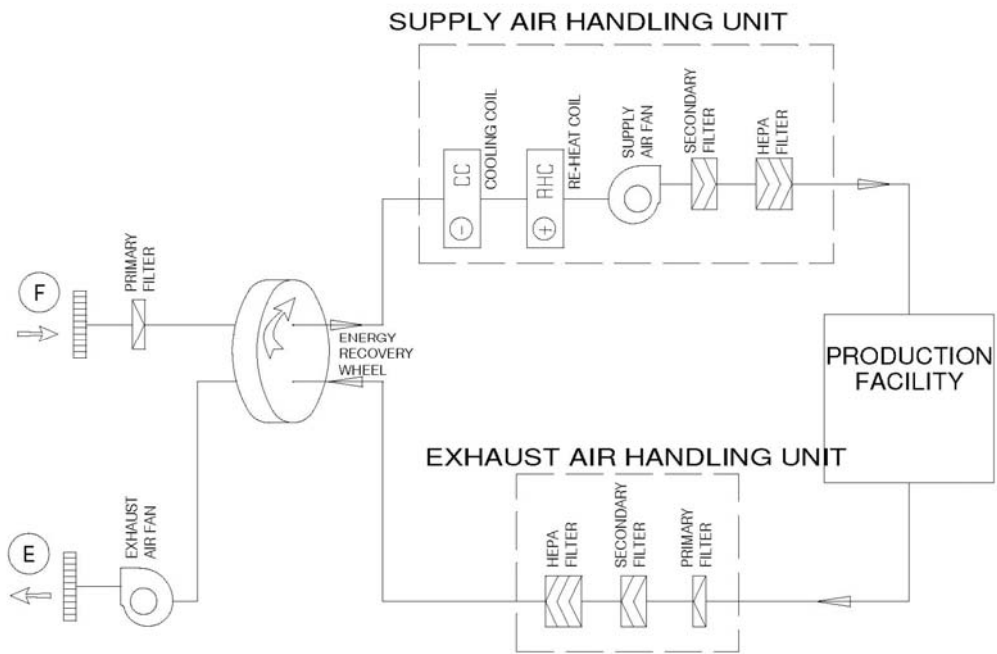


FIGURE 27

FIGURE 28

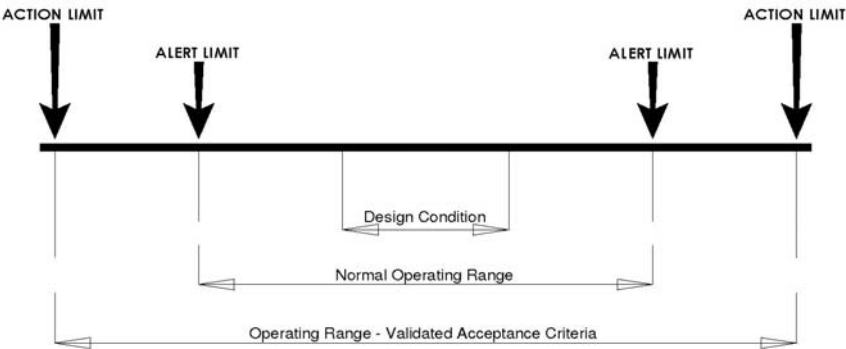
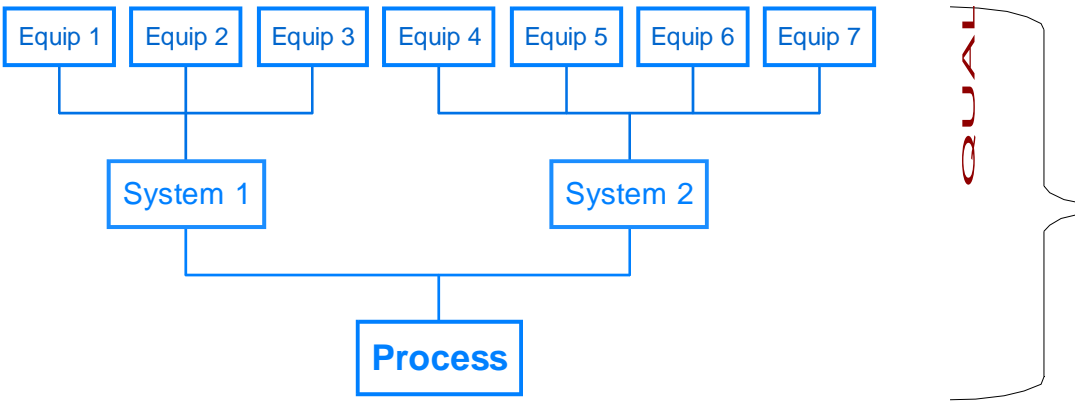


FIGURE 29
