

TABLE 2. A GUIDE TO VENTILATION RATES FOR TYPICAL INDUSTRIAL EQUIPMENT (Continued)
State or Local Regulations Should be Consulted and Followed Where Higher Ventilation Rates are Specified

OPERATION	VENTILATION		REMARKS AND REFERENCES
	Type of Hood	Air Flow	
Mixers	Enclosure	100-200 fpm thru feed and inspection openings	3000-3500 Ref. 18, 21
Motion picture projector (carbon arc)	Enclosure	12-100 cfm (for fume and gas removal) directly exhausted from projector housing	Ref. 30, 1000-1500 cfm or 20-30 air changes per hour for heat removal
Pharmaceuticals	Fully enclosed	100 to 200 fpm through opening	Exhaust required only when filling or emptying
Coating pans	Hood	120 cfm exh 24-in. diam. pan 60 cfm supply direct to pan. Differential 30 cfm	Flexible exhaust hood connection extended all possible
Centrifuges	Enclosure	250-300 fpm through opening	Centrifuge to be provided with cover for 50-75 percent of opening
Hammer mills	Local hood	200 fpm but not less than 50 cfm	
Oscillators	Hood	Not less than 75 cfm per sq ft of plan area	Hood with slot at each end of mixer
Shakers	Enclosure	100-250 fpm through opening or manhole	Ref. 31 Use higher ventilation rate when contents are being heated
Mixers	Side hood	200 to 300 cfm per linear ft of hood with slot velocities of 1500 fpm. Exhaust take-off every 8 to 10 ft	Ref. 19
Process kettles and tanks	Special trap (see references)	40 cfm—vertical (downward) work 200 cfm—horizontal work	Ref. 25, 26 May vary with size and speed of drill Wet drilling offers alternate control methods
Pouring hoods	Canopy—side panels	75-100 fpm indraft	Ref. 23, 29
Foundry	Booth on bench	150-200 fpm at face	Ref. 32, 33
Rubber calender rolls	Enclosure	150-200 fpm indraft through hood openings but not less than 25-50 cfm per sq ft of screen area	Ref. 13, 18
Quartz fusing	Enclosure	200 fpm through all openings in enclosure, but not less than 200 cfm per sq ft of grate area	Ref. 19, 21
Screens	Enclosure		
Vibrating			
Flat deck			
Shakeouts			
Foundry			

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	Type of Hood	Air Flow	
Spray coating	Booth—operator inside Booth—operator outside Booth—downdraft	100-200 fpm at booth cross section 150-200 fpm at booth cross section 100-200 fpm downdraft	1500-2000 1500-2000 1500-2000 Ref. 13 Use higher ventilation rate for small booths 4 sq ft or less
Tanks, open surface	See Table 4		Ref. 34
Tumbling mills Hollow trunnion type	Exhaust connection by manufacturer	Use branch diameter same size as exhaust outlet. For round mills branch diam should be $\frac{1}{2}$ diam of mill; for square mills branch diam should be $\frac{1}{4}$ in. plus $\frac{1}{2}$ side dimension of mill.	Ref. 14
Tumbling mills, drums, cages, barrels	Enclosure	400 fpm thru opening but not less than 75 cfm per sq ft plan area	Where equipment is enclosed and dust tight during rotation, enclosure may be used and dust and discharge operations can be otherwise controlled
Welding	Local hood with flange	6 in. from arc—150 cfm 8 in. from arc—275 cfm 10 in. from arc—400 cfm 10-12 in. from arc—600 cfm 150-250 cfm per sq ft grille area 100 fpm at booth face	Ref. 35
Woodworking	See Table 5		Ref. 21, 36
Miscellaneous Packaging machines, granulators Packed dust producing units Packaging, weighing, container filling, inspection	Complete enclosure Booth Downdraft	100-400 fpm indraft through inspection or working openings, but not less than 25 cfm per sq ft of enclosed plan area 50-150 cfm per sq ft of open face area 75-150 cfm per sq ft of dust producing plan area	Ref. 18 3000 3000 3500