

**Table C8-1 Flow Rate,  $Q$ , in Gallons Per Minute of Various Drainage Systems at Various Hydraulic Heads,  $d_h$  in Inches (Factory Mutual Engineering Corp. 1991)**

Drainage System	Hydraulic Head $d_h$ , in.									
	1	2	2.5	3	3.5	4	4.5	5	7	8
4 in. diameter drain	80	170	180							
6 in. diameter drain	100	190	270	380	540					
8 in. diameter drain	125	230	340	560	850	1,100	1,170			
6 in. wide, channel scupper <sup>b</sup>	18	50	<sup>a</sup>	90	<sup>a</sup>	140	<sup>a</sup>	194	321	393
24 in. wide, channel scupper	72	200	<sup>a</sup>	360	<sup>a</sup>	560	<sup>a</sup>	776	1,284	1,572
6 in. wide, 4 in. high, closed scupper <sup>b</sup>	18	50	<sup>a</sup>	90	<sup>a</sup>	140	<sup>a</sup>	177	231	253
24 in. wide, 4 in. high, closed scupper	72	200	<sup>a</sup>	360	<sup>a</sup>	560	<sup>a</sup>	708	924	1,012
6 in. wide, 6 in. high, closed scupper	18	50	<sup>a</sup>	90	<sup>a</sup>	140	<sup>a</sup>	194	303	343
24 in. wide, 6 in. high, closed scupper	72	200	<sup>a</sup>	360	<sup>a</sup>	560	<sup>a</sup>	776	1,212	1,372

<sup>a</sup>Interpolation is appropriate, including between widths of each scupper.<sup>b</sup>Channel scuppers are open-topped (i.e., 3-sided). Closed scuppers are 4-sided.**Table C8-2 in Si, Flow Rate,  $Q$ , in Cubic Meters Per Second of Various Drainage Systems at Various Hydraulic Heads,  $d_h$  in Millimeters**

Drainage System	Hydraulic Head $d_h$ , mm									
	25	51	64	76	89	102	114	127	178	203
102 mm diameter drain	.0051	.0107	.0114							
152 mm diameter drain	.0063	.0120	.0170	.0240	.0341					
203 mm diameter drain	.0079	.0145	.0214	.0353	.0536	.0694	.0738			
152 mm wide, channel scupper <sup>b</sup>	.0011	.0032	<sup>a</sup>	.0057	<sup>a</sup>	.0088	<sup>a</sup>	.0122	.0202	.0248
610 mm wide, channel scupper	.0045	.0126	<sup>a</sup>	.0227	<sup>a</sup>	.0353	<sup>a</sup>	.0490	.0810	.0992
152 mm wide, 102 mm high, closed scupper <sup>b</sup>	.0011	.0032	<sup>a</sup>	.0057	<sup>a</sup>	.0088	<sup>a</sup>	.0112	.0146	.0160
610 mm wide, 102 mm high, closed scupper	.0045	.0126	<sup>a</sup>	.0227	<sup>a</sup>	.0353	<sup>a</sup>	.0447	.0583	.0638
152 mm wide, 152 mm high, closed scupper	.0011	.0032	<sup>a</sup>	.0057	<sup>a</sup>	.0088	<sup>a</sup>	.0122	.0191	.0216
610 mm wide, 152 mm high, closed scupper	.0045	.0126	<sup>a</sup>	.0227	<sup>a</sup>	.0353	<sup>a</sup>	.0490	.0765	.0866

<sup>a</sup> Interpolation is appropriate, including between widths of each scupper.<sup>b</sup> Channel scuppers are open-topped (i.e., 3-sided). Closed scuppers are 4-sided.