

Nozzle Flow Rates

Cd	0.97	$Q = Cd \cdot Ao \cdot \sqrt{2 \cdot g \cdot h}$	
do	0.125 in		
Do	0.010417 ft		
Ao	8.52E-05 ft ²		Q 0.007123 ft ³ /s
g	32.2 ft/s ²		Q 3.196882 gpm
p	50 psi		
h	115.4 ft		

	US (in)							
Nozzle	1/8	9/64	5/32	11/64	3/16	13/64	7/32	15/64
do (in)	0.125000	0.140625	0.156250	0.171875	0.187500	0.203125	0.218750	0.234375
Do (ft)	0.010417	0.011719	0.013021	0.014323	0.015625	0.016927	0.018229	0.019531
Ao (ft ²)	8.52E-05	0.000108	0.000133	0.000161	0.000192	0.000225	0.000261	0.000299

Pressure	<u>1/8</u>	<u>9/64</u>	<u>5/32</u>	<u>11/64</u>	<u>3/16</u>	<u>13/64</u>	<u>7/32</u>	<u>15/64</u>
20	2.02	2.56	3.16	3.82	4.55	5.34	6.19	7.11
25	2.26	2.86	3.53	4.27	5.09	5.97	6.92	7.95
30	2.48	3.13	3.87	4.68	5.57	6.54	7.58	8.71
35	2.67	3.39	4.18	5.06	6.02	7.06	8.19	9.40
40	2.86	3.62	4.47	5.41	6.43	7.55	8.76	10.05
45	3.03	3.84	4.74	5.73	6.82	8.01	9.29	10.66
50	3.20	4.05	5.00	6.04	7.19	8.44	9.79	11.24
55	3.35	4.24	5.24	6.34	7.54	8.85	10.27	11.79
60	3.50	4.43	5.47	6.62	7.88	9.25	10.72	12.31
65	3.65	4.61	5.70	6.89	8.20	9.63	11.16	12.81
70	3.78	4.79	5.91	7.15	8.51	9.99	11.58	13.30
75	3.92	4.96	6.12	7.40	8.81	10.34	11.99	13.76
80	4.04	5.12	6.32	7.65	9.10	10.68	12.38	14.22
90	4.29	5.43	6.70	8.11	9.65	11.33	13.14	15.08
100	4.52	5.72	7.06	8.55	10.17	11.94	13.85	15.89

1/4	17/64	9/32	19/64	5/16	21/64	11/32	23/64	3/8
0.250000	0.265625	0.281250	0.296875	0.312500	0.328125	0.343750	0.359375	0.375000
0.020833	0.022135	0.023438	0.02474	0.026042	0.027344	0.028646	0.029948	0.03125
0.000341	0.000385	0.000431	0.00048	0.000532	0.000587	0.000644	0.000704	0.000767

<u>1/4</u>	<u>17/64</u>	<u>9/32</u>	<u>19/64</u>	<u>5/16</u>	<u>21/64</u>	<u>11/32</u>	<u>23/64</u>	<u>3/8</u>
8.09	9.13	10.24	11.40	12.64	13.93	15.29	16.71	18.20
9.04	10.21	11.44	12.75	14.13	15.58	17.10	18.68	20.34
9.91	11.18	12.54	13.97	15.48	17.06	18.73	20.47	22.29
10.70	12.08	13.54	15.09	16.72	18.43	20.23	22.11	24.07
11.44	12.91	14.48	16.13	17.87	19.70	21.62	23.63	25.73
12.13	13.70	15.35	17.11	18.96	20.90	22.94	25.07	27.30
12.79	14.44	16.18	18.03	19.98	22.03	24.18	26.42	28.77
13.41	15.14	16.97	18.91	20.96	23.10	25.36	27.71	30.18
14.01	15.81	17.73	19.75	21.89	24.13	26.48	28.95	31.52
14.58	16.46	18.45	20.56	22.78	25.12	27.57	30.13	32.81
15.13	17.08	19.15	21.34	23.64	26.06	28.61	31.27	34.04
15.66	17.68	19.82	22.09	24.47	26.98	29.61	32.36	35.24
16.18	18.26	20.47	22.81	25.27	27.86	30.58	33.42	36.39
17.16	19.37	21.71	24.19	26.81	29.55	32.44	35.45	38.60
18.08	20.42	22.89	25.50	28.26	31.15	34.19	37.37	40.69

	Metric (mm)				US
13/20	14	16	18	20	3/4
0.650000	0.551181	0.629921	0.708661	0.787402	0.75
0.054167	0.045932	0.052493	0.059055	0.065617	0.0625
0.002303	0.001656	0.002163	0.002738	0.00338	0.003066

<u>13/20</u>	<u>14</u>	<u>16</u>	<u>18</u>	<u>20</u>	<u>3/4</u>
54.67	39.31	51.35	64.99	80.23	72.79
61.12	43.95	57.41	72.66	89.70	81.38
66.96	48.15	62.89	79.59	98.26	89.15
72.32	52.00	67.92	85.97	106.13	96.29
77.32	55.60	72.61	91.90	113.46	102.94
82.01	58.97	77.02	97.48	120.34	109.18
86.44	62.16	81.19	102.75	126.85	115.09
90.66	65.19	85.15	107.77	133.04	120.71
94.69	68.09	88.93	112.56	138.96	126.07
98.56	70.87	92.57	117.15	144.63	131.22
102.28	73.55	96.06	121.58	150.09	136.17
105.87	76.13	99.43	125.84	155.36	140.95
109.34	78.62	102.69	129.97	160.46	145.58
115.98	83.39	108.92	137.85	170.19	154.41
122.25	87.90	114.81	145.31	179.40	162.76