

Pipe Dia	Area		Circumference	
	SQ INS	SQFT	SQ INS	SQFT
1	0.79	0.005	3.14	0.26
2	3.14	0.022	6.28	0.52
3	7.07	0.049	9.42	0.79
4	12.57	0.087	12.56	1.05
5	19.63	0.136	15.70	1.31
6	28.27	0.196	18.84	1.57
7	38.48	0.267	21.98	1.83
8	50.26	0.349	25.12	2.09
9	63.62	0.442	28.26	2.36
10	78.54	0.545	31.40	2.62
11	95.03	0.660	34.54	2.88
12	113.09	0.785	37.68	3.14
13	132.73	0.922	40.82	3.40
14	153.93	1.069	43.96	3.66
15	176.71	1.227	47.10	3.93
16	201.06	1.396	50.24	4.19
17	226.97	1.576	53.38	4.45
18	254.46	1.767	56.52	4.71
19	283.52	1.969	59.66	4.97
20	314.15	2.182	62.80	5.23
21	346.35	2.405	65.94	5.50
22	380.12	2.640	69.08	5.76
23	415.46	2.885	72.22	6.02
24	452.38	3.142	75.36	6.28
25	490.86	3.409	78.50	6.54
26	530.9	3.7	81.64	6.80
27	572.5	4.0	84.78	7.07
28	615.7	4.3	87.92	7.33
29	660.5	4.6	91.06	7.59
30	706.8	4.9	94.20	7.85
31	754.7	5.2	97.34	8.11
32	804.2	5.6	100.48	8.37
33	855.3	5.9	103.62	8.64
34	907.9	6.3	106.76	8.90
35	962.1	6.7	109.90	9.16
36	1017.8	7.1	113.04	9.42
37	1075.2	7.5	116.18	9.68
38	1134.1	7.9	119.32	9.94
39	1194.6	8.3	122.46	10.21
40	1256.6	8.7	125.60	10.47
41	1320.2	9.2	128.74	10.73
42	1385.4	9.6	131.88	10.99
43	1452.2	10.1	135.02	11.25
44	1520.5	10.6	138.16	11.51
45	1590.4	11.0	141.30	11.78
46	1661.9	11.5	144.44	12.04
47	1734.9	12.0	147.58	12.30
48	1809.5	12.6	150.72	12.56
49	1885.7	13.1	153.86	12.82
50	1963.4	13.6	157.00	13.08

Pipe Dia.	Area		Circumference	
	SQ INS	SQFT	SQ INS	SQFT
51	2043	14.19	160.14	13.345
52	2124	14.75	163.28	13.61
53	2206	15.32	166.42	13.87
54	2290	15.90	169.56	14.13
55	2376	16.50	172.70	14.39
56	2463	17.10	175.84	14.65
57	2552	17.72	178.98	14.92
58	2642	18.35	182.12	15.18
59	2734	18.99	185.26	15.44
60	2827	19.63	188.40	15.70
61	2922	20.29	191.54	15.96
62	3019	20.97	194.68	16.22
63	3117	21.65	197.82	16.49
64	3217	22.34	200.96	16.75
65	3318	23.04	204.10	17.01
66	3421	23.76	207.24	17.27
67	3526	24.48	210.38	17.53
68	3632	25.22	213.52	17.79
69	3739	25.97	216.66	18.06
70	3848	26.72	219.80	18.32
71	3959	27.49	222.94	18.58
72	4071	28.27	226.08	18.84
73	4185	29.06	229.22	19.10
74	4301	29.87	232.36	19.36
75	4418	30.68	235.50	19.63
76	4536	31.50	238.64	19.89
77	4656	32.34	241.78	20.15
78	4778	33.18	244.92	20.41
79	4902	34.04	248.06	20.67
80	5026	34.91	251.20	20.93
81	5153	35.78	254.34	21.20
82	5281	36.67	257.48	21.46
83	5410	37.57	260.62	21.72
84	5542	38.48	263.76	21.98
85	5674	39.41	266.90	22.24
86	5809	40.34	270.04	22.50
87	5945	41.28	273.18	22.77
88	6082	42.24	276.32	23.03
89	6221	43.20	279.46	23.29
90	6362	44.18	282.60	23.55
91	6504	45.16	285.74	23.81
92	6647	46.16	288.88	24.07
93	6793	47.17	292.02	24.34
94	6940	48.19	295.16	24.60
95	7088	49.22	298.30	24.86
96	7238	50.26	301.44	25.12
97	7390	51.32	304.58	25.38
98	7543	52.38	307.72	25.64
99	7697	53.45	310.86	25.91
100	7854	54.54	314.00	26.17

**Formulas:**

$VP = (\text{Velocity} / 4005)^2$

$\text{Velocity} = (\text{Sq Root of VP}) \times 4005$

$CFM = \text{Pipe Area ft}^2 \times \text{Velocity}$

$Q = \text{Air volume (CFM)}$

$V = \text{Velocity (FPM)}$

$A = \text{Duct Area (SQFT)}$

$Q = V \times A$

$V = Q / A$

$A = Q / V$

**(Power)**

$KW \times 1.34 = HP$



**Conversions**

(Velocity)

Meter/second x 196.8 = FPM

Meter/hour x .0546 = FPM

(Air Volume)

M<sup>3</sup>/minute x 35.314 = CFM

M<sup>3</sup>/hour x .5885 = CFM

(Pressure)

mm of water x .0393 = inches of water

pascal x .00401 = inches of water

(Filter area)

M<sup>2</sup> x 10.7 = ft<sup>2</sup>

(Metric filter load rate to filter air to cloth ratio)

M<sup>3</sup>/M<sup>2</sup>/Hour x .05416 = Air to cloth ratio