

# McGuire Air Compressors, Inc.

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## Air Flow Through Orifices

Volume of free air in CFM that will flow through round holes from a receiver into the atmosphere.

Cubic feet of air per minute measured at absolute pressure of 14.7lbs. per sq. in. and 70% F.

Diameter of Orifice (In.)	Air Flow Through Orifices: Gauge Pressure in Receiver - Pounds																		
	2	5	10	15	20	25	30	35	40	45	50	60	70	80	90	100	125	150	200
1/64	0.04	0.062	0.077	0.105	0.123	0.14	0.158	0.176	0.194	0.211	0.29	0.267	0.3	0.335	0.37	0.406	0.494	0.583	0.75
1/32	0.158	0.248	0.311	0.42	0.491	0.562	0.633	0.703	0.774	0.845	0.916	1.06	1.2	1.34	1.48	1.62	1.98	2.32	3.18
3/64	0.356	0.568	0.712	0.944	1.1	1.26	1.42	1.58	1.75	1.91	2.06	2.38	2.7	3	3.33	3.66	4.44	5.25	6.86
1/16	0.633	0.993	1.24	1.68	1.96	2.25	2.53	2.81	3.1	3.38	3.66	4.23	4.79	5.36	5.92	6.49	7.9	9.1	12.17
3/32	1.43	2.23	2.8	3.78	4.41	5.05	5.69	6.31	7	7.63	8.25	9.5	10.8	12	13.3	14.6	17.8	20.9	27.35
1/8	2.53	3.97	4.98	6.72	7.86	8.98	10.1	11.3	12.4	13.5	14.7	16.9	19.2	21.4	23.7	26	31.6	37.3	48.7
3/16	5.7	8.93	11.2	15.2	17.65	20.2	22.8	25.2	28	30.5	33	38	43.2	48.3	53.2	58.5	71	84	109.6
1/4	10.1	15.9	19.9	26.9	31.4	35.9	40.5	45	49.6	54.1	58.6	67.6	76.7	85.7	94.8	104	126	149.3	195
3/8	22.8	35.7	44.7	60.5	70.7	80.9	91.1	101	112	122	132	152	173	193	213	234	284	336	438
1/2	40.5	63.5	79.6	108	126	144	162	180	198	216	235	271	307	343	379	415	506	596	777
5/8	63.03	99.3	124.5	168	196	225	253	281	310	338	366	423	479	536	592	649	790	932	1216
3/4	91.2	143	179.2	242	283	323	365	405	446	487	528	609	690	771	853	934	1138	1340	1750
7/8	124	195	244.2	329	385	440	496	551	607	662	718	828	939	1050	1161	1272	1549	1825	2382
1	162	254	318.2	430	503	575	648	720	793	865	938	1082	1227	1371	1516	1661	2023	2385	3112
1 - 1/8	205	321	402.5	544	637	727	820	910	1004	1094	1187	1370	1552	1734	1918	2101	2560	3020	3940
1 - 1/4	253	397	498	672	784	900	1019	1124	1240	1352	1464	1693	1917	2144	2370	2596	3160	3725	4860
1 - 3/8	307	482	604	816	954	1091	1230	1367	1505	1643	1780	2054	2330	2607	2880	3153	3840	4525	5910
1 - 1/2	364	572	716	968	1132	1293	1460	1620	1783	1946	2112	2335	2760	3081	3412	3734	4550	5360	7000
1 - 3/4	496	780	972	1318	1540	1760	1985	2205	2429	2650	2875	3310	3755	4200	4645	5085	6195	7300	9530
2	648	1015	1274	1720	2120	2300	2594	2880	3173	3460	3752	4330	4915	5480	6070	6650	8100	9540	12450

Table is based on 100% coefficient of flow. For well rounded entrance, multiply values by 0.97. For sharp edge orifices, a multiplier of 0.65 may be used. This table will give approximate results only. The formula  $Q=14.5 PD^2$ , where Q is CFM, P is absolute pressure and D is orifice diameter in inches, may be used for any points not given in table. (Applies only above 15 pounds gauge.)