

Air Flow Through Orifices

Volume of free air in CFM that will flow thru round holes from a receiver into the atmosphere. Cubic feet of air per minute measured at absolute pressure of 14.7 lbs. per sq. in. and 70¼ F.

| Dia. of Orifice (In.) | 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.)